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Tajikistan
Second Programmatic Public Expenditure Review

(In Four Volumes) Volume IV: Public Expenditure Tracking Survey (PETS)
Health Sector

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CURRENCY AND EQUIVALENT UNITS
(as of November 29, 2007)

Currency Unit	=	Tajikistan Somoni (TJS)
US$1	=	3.4465

WEIGHTS AND MEASURES
Metric System

ABBREVIATIONS

CCH	Central City Hospital
CDH	City Department of Health
CRH	Central Rayon Hospital
CSIP	Centralized State Investment Program
CSPro	Census and Survey Processing System
ECA	Europe and Central Asia
EOP	Executive Office of the President
FAP	Feldsher and Midwife/ Maternity Point
GAVI	Global Alliance for Vaccines and Immunization
GBAO	Gorno-Badakhshan Autonomous Oblast
GDP	Gross Domestic Product
GOT	Government of Tajikistan
HH	Health House
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
IMF	International Monetary Fund
IT	Information Technology
MDGs	Millennium Development Goals
MH	Maternity Hospital
MoF	Ministry of Finance
MoH	Ministry of Health
MR	Mortality Rate
NDR	Nurse to Doctor Ratio
PEFA	Public Expenditure and Financial Accountability
PIP	Public Investment Program
PPER	Programmatic Public Expenditure Review
PPS	Probability Proportional to Size
PRSP	Poverty Reduction Strategy
RepCI	the Republican Center for Immunoprophylaxis
RayCI	The Rayon Center for Immunoprophylaxis
RRS	Rayons of Republican Subordination
SES	Sanitary and Epidemiology Services
SOE	State owned Enterprises
SPSS	Statistical Package for the Social Sciences
SRC	Sociological Research Center
SSC	State Statistical Committee
SUB	Rural Hospitals
SVA	Rural Physician Ambulatory Centers
TLSS	Tajikistan Living Standard Survey
UN	United Nations
USD	Unites State Dollar
VAT	Value Added Tax
WB	World Bank

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EXECUTIVE SUMMARY

1. The health care system in the Republic of Tajikistan requires substantial reform in order to adequately meet the health needs of the population and to ultimately lower morbidity and mortality rates. The Government has indicated its willingness to undertake interventions to facilitate improving the effectiveness of the system including revisiting the health financing system.

2. In order to support future reform efforts, a Public Expenditure Tracking Survey (PETS) was carried out in 2006. This report shares the results of that survey and draws conclusions based upon the findings. It provides information on where and on what health care monies were spent as well as which institutions within the government – both central and local – had the greatest influence on the allocation of funds. Specifically, the PETS collects budget data at each level that public resources pass through before reaching frontline providers such as hospitals and polyclinics.

3. The PETS study analyzes budget management, human resources, and other (non-human resource) inputs of service delivery. In each of these areas, important insights are gained that may not have been known earlier, or if known, were not substantiated with data. However, it is the detailed identification of how funds are actually managed and how human capital and other inputs are deployed, which will potentially add value in the design of system-wide reforms.

Background

4. The PETS was carried out against a background of a population which suffers from high rates of ill health and malnutrition. Though not captured adequately by official statistics, such common health indicators as infant mortality rates, under-five mortality rates, and maternal mortality rates are high. Furthermore, diseases – such as malaria, tuberculosis, and typhoid – which had been eradicated or brought under control were beginning to affect larger numbers of persons than before independence. And new diseases such as HIV/AIDS were emerging and advancing rapidly and the burden of non-communicable diseases was increasing.

5. Though poor health may seem to be the inevitable fate of populations of low income countries, this need not be the case. All countries have resources, and those with modest resources and a large health deficit must make a considered decision to identify health among its top priorities. Yet perhaps even more importantly, the resources that are allocated towards health should best be allocated in such a way as to help the most people possible within the allotted resource envelope. The gravest error is when public resources are allocated towards high-cost low-impact services at the expense of other more effective and lower cost interventions. This results in short-changing a large section of the population, particularly the most vulnerable population groups such as children and the infirm.

6. In Tajikistan, there are some problems that are so prevalent or obvious that public officials, civil society, and donors alike acknowledge their presence. First, and foremost, public resources devoted to health care expenditures are low in absolute as well as internationally comparative terms. An estimated 1.1 percent of GDP was allocated by all levels of government to health. Also, even to the less-than-keen observer, the state of health facilities is so poor that underfunding is easily apparent. Second, the 2005 Poverty Assessment identified that the bulk of

health expenditures in Tajikistan were paid out-of-pocket by individuals either as formal or informal payments. The largest category of private medical spending was on pharmaceuticals. Moreover, even the more affluent members of the population indicated that they did not seek health care in some instances because of the high cost.

7. Thus, Tajikistan's current health care system is underfunded and even those in society who are among the better off can no longer pay to cover all the health care services they need. Since private spending may have reached its limit yet the health care needs of the population remain inadequately addressed, the Government will need to step in. There are two options available – (i) the Government can provide additional funding for health care by redirecting expenditures from other sectors or activities and/or (ii) it can make significant improvements in the allocation of existing resources to improve outcomes. The PETS results are helpful in identifying which option or which combination of these two options will yield the greatest benefits in terms of improvements in the health care delivery system.

ORGANIZATIONAL STRUCTURE OF THE HEALTH SYSTEM

8. The current structure of the health care system remains similar to the Soviet model, with the State as the main provider of care services. The health services organization mirrors the administrative structure of the country whereby care services are divided into four horizontal levels of administration, and also into separate vertical pillars for national programs. The four tiers of government are Republican (i.e., central), oblast, rayon, and jamoat levels. Each of these tiers has its strengths and weaknesses in promoting health care.

9. The PETS helped to reveal with greater clarity the roles of each tier of government in the provision of funds for health care as well as their role in influencing the delivery of services health care facilities. Some of the main characteristics of the system are as follows:

10. Republican tier. There are surprisingly several ministries involved in the health sector which can be classified into three categories. First, the Ministry of Health (MOH) is responsible for health care policy as well as for national-level care services. Second, the Ministry of Finance (MOF) allocates the central government's funds for health care directly to the five oblast administrations, with little or no consultation with the MOH. The third category of ministerial involvement in health care is through the hospitals which fall under other line ministries and state agencies (e.g., the Ministry of Agriculture and Ministry of Irrigation and Water Supply). Though most likely these health facilities consume relatively small share of overall public health resources, these health expenditures are subsumed under the ministries' budgets and are not captured in the overall public health care expenditures.

11. Oblast tier. The Ministry of Finance provides resources to the Oblast Finance Departments for health care expenditures. These resources are given to the Oblast Health Department which is responsible for providing funds to region-wide facilities such as oblast level hospitals and large polyclinics. However, a large share of the resources received from the MOF is transferred to the rayons. According to the law on local public administration, oblasts are primarily responsible for supervision of the rayons' performance in provisioning of basic services.

12. Rayon tier. The 61 rayons, especially rich rayons, do not depend on budget transfers from oblasts because a major part of their budgetary revenue is from local taxes and shared taxes which are under their control. The Rayon transfers the majority of health funds to the Central Rayon Hospital (CRH) which is headed by a Chief Doctor whose responsibility includes managing the

CRH and allocating the rayon's health funds to all rayon health care facilities. The Rayon Council is also the level that prepares the requests for Republican funding which are then sent to the Oblast Administration and eventually to the MOF. There does not appear to be any consultation between the sixty or so rayons and the MOH, thus leading to a disconnection between health policy and implementation.

13. Jamoat tier. The 356 jamoats are responsible for disbursing funds transferred from the rayons based on line items to health facilities operating within the jamoat territory, mostly in the rural area. Health facilities receiving financing from jamoats are mostly rural medical houses (FAPs), rural hospitals (SUBs) and Rural Physician Ambulatory Centers (SVAs). As jamoats are more closely connected to the community base, they are responsible for implementing rayon policy and do not have their own source of financing. Although they collect tax to send to the rayon, their budgetary resources are specified in a separate line item of the respective rayon budgets. The budgetary funds are transferred to jamoats' bank accounts and are managed solely by jamoats.

Analysis of the Health Sector Budget Management

14. One of the key contributions of the PETS is to provide a better understanding of the flow of funds and the obstacles frontline health units face in obtaining funds – and moreover *sufficient* funds to function at a reasonable level of viability. In this section, we discuss the main findings of the health sector budget management. The analysis of the survey sheds light on three aspects of budget management: (i) allocation of resources, (ii) management of budgetary resources, and (iii) discretion of resource managers.

How were resources allocated in the health sector?

15. The allocation of public resources should be based upon principals of (i) maximizing benefits to the population, (ii) achieving a balance among inputs, and (iii) striving to achieve equity. All of these choices are made within an envelope of funds and hence striving for cost efficiency is essential. The first principal of maximizing welfare is tested by the *type* of health facilities and interventions that the Government chooses to support. The second principal is also called "technical efficiency" – that is, is the combination of inputs such that we get the best result? For example, there is little point in having a surgeon without surgical nurses, a functioning theater, bandages, and medicines. Third, equity is an important attribute in the provision of public services to the population – should essential public services be given more to one group than another?

16. The majority of public health care funds – whether at the Republican, oblast, or rayon level – are devoted to hospital services with the residual amount financing primary health care facilities. This occurs despite the fact that hospitals are expensive to run – much more so than polyclinics and other primary health care facilities. Yet the resources spent on hospitals are inadequate as is readily apparent by the physical condition of the buildings, the poor functioning or absence of diagnostic equipment, and the scarcity of medicines, food, and fuel. Thus, the hospital subsector is consuming a large share of health resources yet yielding only limited benefits to the population. Moreover, in order to bring the hospitals to reasonable standards, the resource requirement would be so high – and unaffordable for Tajikistan as well as unnecessary.

17. Wages are protected but other important expenditure categories, such as medicines, utilities, repairs and maintenance, are not. The health budget was allocated among the wage bill, goods and services, repair and maintenance, and capital expenditures. Just under 50 percent of the

public health expenditures were on the wage bill, an estimated 41 percent on other inputs, 12 percent on repairs and maintenance. Among all categories of expenditures, the wage bill is the only "protected" category – that is, health facilities actually received wage and salaries as approved. This was not the case for other categories of expenditures, especially goods and services which includes medicines, fuel, and food. This category remains the least understood in terms of whether health facilities actually receive necessary (non-human capital) inputs or not, and if not, what are the causes for this.

18. Resource allocation in the health sector varies across the regions. On a per capita basis, some oblasts receive more health care funds than others. For example, GBAO received 23 somoni per capita which was 2.6 times the average per capita health spending for all oblasts. It is not clear whether this reflects the higher cost of providing the same level and types of goods and services to GBAO which is a mountainous region or whether it reflects a greater level of goods and services being provided to the residents of this small oblast comparative to other oblasts. It is also worth noting that resource allocation per capita was not correlated at the rayon level with income per capita. Hence, poorer rayons did not receive more money.

19. The health sector appears to be a low priority for all tiers of government as indicated by the budget. As mentioned earlier, health care facilities are poorly funded. But despite this, the lack of prioritization given to the health sector exists throughout the public sector, whether by the Republican government, oblast administration, or the Rayon Councils. Even in instances where additional funds became available due to higher revenue intake (for example, at the rayon level), the health sector gained few additional resources. There appears to be under execution of the health budget at least at the jamoat level which means that all resources allocated to this sector were not used up. This is surprising given the physical state of the health care facilities – both buildings and diagnostic equipment – and the scarcity of inputs such as medicines and dressing material, food, and fuel.

How were budgetary resources managed?

20. The management of the health sector budget has some surprising attributes which are of great importance since they shed light on who controls the funds – and perhaps on who sets health policy as well. Though the assumption is that the Ministry of Health should play an important role in the management of health resources, it does not – except for a handful of national level health institutions. Therefore, who formulates and executes the budget? Who monitors whether it is being used as agreed upon?

21. About 60 different rayon chairmen negotiate for health resources. The budget is formulated at the rayon level based upon requests submitted by health facilities. The rayon chairman has the responsibility to negotiate the rayon budget of which health is but one of the components. He must also negotiate the health budget with the oblast as well. Though the MOH may offer some guidelines, these are insufficient to influence what specifically gets funded either in terms of which facilities, how much, or for what category of spending. Thus, rayon chairmen who may have little appreciation of the country's overall health policy ultimately have some of the greatest influence on how health resources are allocated.

22. The rayon health budget is executed through the Central Rayon Hospital and the jamoats. The rayon administration generally does not allocate resources to health facilities directly. Rather, it delegates this task primarily to the CRH which acts effectively as the health department for the rayon. But health facilities receive funds not only from the rayon, but also the oblast and the jamoat. The only category where the amount has been predetermined and resources are allocated,

is wages and salaries – payment for these are in cash to the CRH and the jamoat. Consequently, there are almost no cases where public health sector employees report not receiving their compensation. However, non-wage expenditures of health facilities were mostly paid in kind by the CRH and many health facilities report receiving very limited allocations of these items. Whether this is because the CRH keeps the majority of the resources for their own needs or that goods are diverted for private gain needs further investigation.

23. Health facilities find it difficult to plan health spending due to budget amendments during the year, which results in suboptimal use of resources available**.** The rayon budget was generally amended during the year due to better tax collection than originally forecasted. The majority of additional resources were given to the CRHs. The jamoat health budget that financed mostly polyclinics did not get additional resource during the budget revision in 2005. Additional funds given unexpectedly inhibit the ability of health facilities' to plan their spending. Though at one level, why the lack of foreknowledge is a burden is not clear given the gap in what the facility needs and what it receives is so great. However, this may stem from the need to disburse additional funds by the end of the fiscal year ("use them or lose them") and/or that the additional resources they received were for pre-designated categories. In 2005, repair and maintenance was given priority.

24. Financial reporting requirements on budget execution are weak in the health sector. Rayons, jamoats, and CRHs prepared end-year financial reports on budget execution and submitted these to the higher levels of government in 2005; while health facilities other than CRHs did not prepare financial reports on budget execution. It would be difficult for individual health facilities to undertake financial reporting if only because they lack an approved budget for non-wage inputs and no mechanism exists for assessing the value of in-kind donations of such items as food from local entrepreneurs or the community. Yet, despite the lack of data for the majority of frontline facilities, the annual budget report is frequently audited by the State Financial Control and the internal audit unit. Consequently, it is not clear how useful the auditing exercise is from the perspective of understanding whether resources reach their designated recipients.

How much discretion do resource managers have?

25. The rayon governments have more flexibility in managing their budget because of the ability to collect and retain local taxes and the share-tax without sending all revenue back to the central treasury**.** The ability to retain excess revenue over the forecast provided greater scope to local governments to spend additional revenues on other priorities that were left out at the beginning of the year. They are empowered to make final resource allocation to sectors at the beginning of the year, reallocate additional revenue to sectors during the year, and reallocate resource across sectors and line-item expenditures. This power is exercised by the rayon Chairmen, who decide on the allocation of resources among various sectors. In addition, even the jamoat Chairmen had some discretionary power since they distributed wage and salary and decided on allocation of resource among polyclinic services.

26. The Chief Doctor of each of the Central Rayon Hospital has significant discretionary power yet the system does not require much accountability from him**.** The majority of the rayon's budget is allocated to the Central Rayon Hospital which is responsible for retaining some of the funds for its operations and allocating the remainder among the other health facilities in the rayon. Consequently, the Chief Doctor acts both as the manager of the CRH but also as the head of the rayon health system. In particular, the Chief Doctor is the person with the greatest authority in the allocation of resources in three important areas. (i) He has discretion in personnel

management (i.e., hiring and firing), allocating floating stavkas (i.e., compensated workloads) for bonus and approving overtime for health workers; in essence, he is *de facto* an employer given the degree of discretion provided to him by the government.[1] High-level position such as doctors, administrators, and nurses are almost always filled by a person chosen by the CRH. (ii). He is responsible for allocating in kind resources to rayon health facilities, which can include essential inputs such as medicines and medical supplies. (iii) He has the authority to reallocate budgetary funds from other health care services (e.g., polyclinics and public health affairs services) to hospital care. However, despite these enormous responsibilities, there are few mechanisms in place to ensure accountability of the Chief Doctor to the oblast administration. For example, there is no mechanism for tracking funds from the CRH to health facilities or for monitoring performance.

27. Some key players in the health system have little or no discretionary authority. The jamoat officials responsible for polyclinics and rural facilities primarily act as disbursing agents for the rayons. They have little or no say in how funds should be allocated among health services being provided on their territory. However, perhaps of greater concern, is that heads of health facilities (with the exception of the CRH) do not control their operating resources whether it is their personnel or their medical inputs (medicine or medical supplies). Most do not even know their budget allocation. Moreover, since they receive their non-personnel resources primarily in kind, they are unable to allocate their budget among their own identified priorities. Thus, many health facilities, for example suffer from lack of adequate non-personnel inputs such as utilities and medicines.

28. Supervision is exercised by the CRH and SUB (rural hospital) and appears to exert a high financial and opportunity cost for facilities. The CRH and SUB provided the bulk of supervision visits with 89 percent of CRH and 78 percent of SUB involved in supervision in 2005. Only 16 percent of facilities that provided supervision reported receiving funds for fuel/transportation to perform these activities. However the average number of trips each quarter by the CRH was 24 (more than once weekly). In addition though, 81 percent of health facilities had to visit the CRH on average 56 times per year (more than once per week). Over 85 percent of all SUBs, SVAs, and medical had to visit the CRH on a regular basis, especially those in rural areas. Yet only 6 percent of the facilities that visited the CRH reported receiving funds for fuel and transportation. This excessively high level of supervision and reporting activities between the CRH and the other health facilities does not appear to be warranted and at best is an inefficient use of resources and worst is a deliberate misuse of funds.

MANAGEMENT OF HUMAN RESOURCES

29. Health personnel especially doctors, nurses and technicians are a key determinant of the effectiveness of a health care system. Without them, health care services cannot be delivered to the population. Consequently, the proper management of this valuable input is critical to ensuring the population's welfare. Yet, as discussed below, management of personnel in this sector is very difficult – working conditions (especially outside of Dushanbe) are poor and wages are low. In order to use human resources optimally, there need to be complementarities between different types of health workers as well as between health care workers and others types of inputs (such as medical supplies and medicines).

[1] High-level position such as doctors, administrators, and nurses are almost always filled by a person chosen by the Chief Doctor.

30. Regional variations in the health personnel composition and levels point to the possibility of suboptimal allocation of resources that reflect the preferences of health sector workers rather than serve the needs of the population**.** These regional variations are also consistent with the findings on budget allocation and are reflected in the characteristics of both health workers and facilities. The average health facility employs 24.4 people, with a peak in Dushanbe which averages 147.7 individuals per facility. Urban facilities are on average more than ten times bigger than rural ones in employment terms – which may reflect not only the larger populations being served but the greater availability of complementary inputs such as medicines and medical supplies. The nurse to doctor ratio (NDR), a popular quality indicator, varies a great deal in Tajikistan. Although there is no standard or optimal NDR, the rule thumb ratio falls somewhere between 2 and 4. The national NDR is 2.08; it goes from a low 0.95 in Dushanbe, which has more doctors than nurses, to the national high of 2.71 nurses per doctor in GBAO.

31. Though there are relatively few wage arrears compared to the past, health sector wages are low**.** The recent reforms undertaken by the government in the public financial system have been successful at alleviating delays and almost eradicating arrears for protected salaries, at least in the health sector. Except in Sogd where a little more than 40 percent of health workers experienced delays, almost all employees received their entire salary on time in the country. However, salaries are still very low in Tajikistan's health sector with an average monthly wage of 48 Somonis. There is a huge premium for working in Dushanbe, where the average total salary is more than twice the national average. Even hospital attendants in Dushanbe make more on average than doctors elsewhere in the country. This factor constitutes a powerful brake for any attempt to send doctors in remote areas and may partly explain the very high proportion of doctors per facility in Dushanbe and its very low nurse to doctor ratio.

32. Tajikistan's health workers consider themselves grossly underpaid and employ coping strategies – some of which are illegal**.** The average salary considered as "fair" is 7.7 times higher than the actual average salary. In order to compensate for the inadequate salary, many health workers either seek employment outside the facility or informally charge patients. Approximately 18 percent of the health workers admit that they work outside the facility to supplement their low income. On average the number of worked in this second job per week is 20 hours which may explain the high absentee rates seen in Tajikistan. Doctors and administrative staff are more likely to hold a second job. Moonlighters mostly work in the agricultural sector, 55 percent, or privately provide health care, 28 percent.

33. Besides working outside the facility, 46 percent of the health workers admit to receiving informal payments (gifts in cash or in-kind) from patients to supplement their income. Informal payments are more prevalent in Dushanbe where 72 percent of workers engaged into that activity in the month preceding the survey, and among doctors 60 percent and nurses 50 percent. The average health worker is able to extract as much as 28 somonis per month from patients, with a peak of 124 somonis for doctors in Dushanbe.

34. Although official wages are low, there is a sizeable amount of unallocated funds in the rayon's wage budget which can be used to allocate extra stavkas or 'workloads' or as bonuses for the staff. The PETS findings show that the average facility has 13 extra stavkas of which only 8 were redistributed to the employees and the remaining 5 stavkas are unaccounted for. In Dushanbe there are on average 123 extra stavkas for the facility with 148 health workers. Doctors and nurses receive the highest numbers of extra stavkas. Men are more likely to be granted extra stavkas. Experience in the health sector and longevity in the facility also boost the chances of receiving extra stavkas. Yet, the availability of stavkas and the ability of the Chief Doctor to

allocate them to his staff may have unintended perverse effects such as reducing the incentive to hire new health workers to fill vacancies.

35. The PETS finds that approximately 30 percent of the health workers were absent from the facility at the time of the survey**.** Controlling for facility and staff characteristics, health workers in rural areas are 31 percent more likely to be absent than their urban counterpart. Khatlon's employees are 7% less likely to be absent than workers in RRS, Sogd, and GBAO. Absenteeism rates are lower for medical houses, SVAs, and SUBs when compared to small polyclinics and other facilities. Higher salaries and more stavkas reduce substantially the likelihood of absence indicating that perhaps high absentism may be a result that health personnel are pursuing alternative employment.

MANAGEMENT OF NON-HUMAN RESOURCES INPUTS

36. In order for health care facilities to function adequately, they must receive an array of inputs including communal services (such as water, heating, electricity, and phone), fuel for vehicles, drugs, medical supplies, and material supplies. Moreover, facilities that provide inpatient care and have beds will need food. Health facilities serving larger populations obviously have greater input requirements, yet irrespective of the size of the client population, there is a certain minimum level of inputs each facility requires in order to function. As discussed below, in Tajikistan, the PETS systematically reveals that a significant portion of health facilities do not receive an adequate amount of inputs though it is not clear to what degree this is a result of insufficient funds for health care or a mismanagement of funds (including corruption).

37. Many health facilities do not have the basic infrastructure necessary to provide health services. Tajikistan's crumbling infrastructure is adversely impacting the health sector to the point of making many facilities almost non-functional. Though rural health care facilities have less access to infrastructure services than urban facilities, without exception all categories of facilities are lacking in some important service. Access rates across the board are discouraging:

- An estimated 53 percent of facilities have access to water. All urban and rural CRHs, hospitals, and polyclinics had access to water. While only 42 percent of rural primary care facilities had access to water (piped or delivered).

- Regional average access rates to winter heating are low with the exception of GBAO with a rate of almost 100 percent of surveyed facilities (due possibly to its severe winters). In the other regions, only between 30 – 50 percent of facilities were heated in winter. Only 6 percent of facilities that receive heat are connected to central heating while 64 percent use coal or wood.

- On average over 90 percent of facilities have access to electricity by region. However, rural facilities and outpatient care facilities received it for fewer hours than urban and inpatient care facilities. Rural primary health care facilities received electricity for only about 3-4 hours per day.

- Only 23 percent of all health facilities reported having access to radio and/or telephone. Most of these facilities were in urban areas. However, in areas rural areas where it would be most needed, only 9 percent of facilities had access to a means of communication.

- Only 19 percent of health facilities had at least one vehicle (e.g., cars, ambulances) available for providing transport patients in emergencies to and from the facility, outreach and supervision, or for the collection of important inputs such as drugs and vaccines.

The lack of access to these very basic utilities calls into question more than simply the quality of care but rather the viability of the rural primary health care network as it presently exists.

38. The inputs of drugs, food, fuel, and other materials varied greatly by region and type of facility despite the norms established by the Ministry of Health. The high level of variation suggests an undue degree of discretion by the persons allocating resources to various facilities despite the establishment of norms. Similar to the patterns of access to communal services and vehicles, urban facilities and hospitals were more likely to receive greater quantities of inputs.

- An estimated 33 percent of facilities reported not receiving drugs (budget or actual pharmaceuticals) from government resources.[2] The average expenditure on drugs per facility is 8,044 somonis ranging from 108 somonis for medical houses compared to almost 42,000 somonis for CRHs.

- Only 57 percent of facilities with beds received funds or in kind deliveries of food from the government. There was great variation even among the CRHs and the food allocation per bed also varied greatly. Average monetary value of food per facility is 25,623 somonis.

- Only 11 percent of health facilities received funds or in kind allocation for fuel. The average allocation was 5,342 somonis per facility with high standard deviation around the mean.

- Other materials such as office supplies were given to 55 percent of the health facilities. However, the average allocation was 9,945 somonis which appears to be high.

- An estimated 75 percent of urban facilities and 50 percent of rural facilities were renovated in the past year.

39. Variation in receiving funds or in kind resources was very high among facilities with 16 percent of health facilities receiving no assistance other than wages. Urban facilities received most of the funding with a strong bias in favor of CRHs followed by other hospitals and then polyclinics. In rural areas, SUBS (rural hospitals) received the majority of the funds with very few resources going to SVAs (rural physician ambulatory facility) and medical houses to cover their needs for drugs, fuel, utilities, and other materials. However, the fact that a significant portion of facilities – especially medical houses – received nothing from the government is indicative of the low level of public support rural primary health care facilities receive and also possibly of high leakages in the flow of funds.

40. Donations from health care staff, international organizations, and local organizations partially compensated for the lack of sufficient government support for inputs through other means. The PETS survey shows significant out-of-pocket expenditures by health staff to cover

[2] This figure excludes GBAO health facilities that reported receiving no drugs at all. There may have been some misunderstanding and resulted in survey discrepancy.

costs. Whether these were financed by getting additional stavkas and bonuses given specifically to cover additional needed expenditures, out of salary, or through collecting informal payments is not clear. Nevertheless, having to use own resources is burdensome. In addition, about 55 percent of facilities received in kind support from external sources. The main source of external support was international organizations (90 percent) and in few instances were national NGOs and the local community. As with government support, CRH and medical houses had the highest and lowest percentage of facilities that received support from external support. However, since external donors did not coordinate their support to the health sector, there is a concern of misallocation of resources as external support might be concentrated in certain area while the needy area may be left unnoticed.

WERE LEAKAGES IDENTIFIED?

41. One of the PETS objectives is to identify whether funds reached frontline service providers, e.g., central rayon/city hospitals and primary health care facilities and how much. However, tracking of health expenditure faces challenges due to a lack of an approved budget for a health facility and poor financial records. Central Rayon or City Central Hospitals were the only type of health facility that had the approved budget, while the other types of health facilities providing primary health care (FAPs, SUBs, SVAs, medical houses and Polyclinics) did not have approved budgets. The survey, therefore, asked for the amount of fund sent and the amount of fund received recorded by various levels (rayon, CRH, jamoat, and health facility).

42. There were potential leakages of the resources flowing from the rayon to the CRH**.** The survey data show discrepancies of funds that flowed from the rayon to the CRH budget and from the rayon to the jamoat budget. Nearly 50 percent of CRH reported discrepancies between the amount executed as reported by themselves and the amount of fund sent to these CRHs as reported by the rayons. Wage and salary constituted the main source of these discrepancies. The discrepancies in the jamoat budget as reported by jamoats themselves and by the rayons were difficult to interpret due to limited budget information.

43. Wage expenditure estimated at about 4.8 stavkas per health facility was not accounted for, thus implying leakages**.** Records of salary payments including approved and actual work loads allocated to individual medical staffs were readily available at all level of health facilities. The PETS is in fact the first survey that collected data on the number of stavka held by a representative sample of health workers. On average, a Tajik facility on an average has 52 percent more approved stavkas than actual stavkas based on employees. Therefore over 1/3 of the wage bill in the health sector is unallocated and the CRH director had discretionary power in allocating these stavkas as bonuses for the staff. The PETS findings show that the average facility has 12.7 extra stavkas of which only 7.9 were redistributed to the employees and the remaining 4.8 stavkas are unaccounted for. If they were not returned to the Treasury at the end of the budget year, this represents leakages of the wage expenditure.

44. The survey was unable to determine leakages of non-wage inputs flowed from a higher administrative level (CRH and Jamoat) to PHC service providers**.** Tracking the total amount of fund for non-wage inputs (drugs, food, and other expenditures) received by facilities is more complicated. Health facilities other than CRHs (medical houses/FAPs, SUBs, SVAs, polyclinics) did not know their approved budgets. They received both cash and in-kind inputs from CRHs, jamoats or rayons and have poor financial records. These together with weak capacity of the survey team led to triangulation of the budget data reported by various administrative levels.

45. In conclusion, the PETS could not identify all leakages in Tajikistan**.** Only CRH is considered a budget entity and have their budget clearly separated. Other types of facilities have no separate approved budgets and their budgets are integrated with the CRHs. This combined with a lack of financial records at the facility level make it impossible to identify what was approved and what was actually received, especially for non-wage current expenditures.

THE WAY FORWARD

46. Though it is clear that Tajikistan's health sector faces myriad challenges, what is less clear is what steps should be taken to ameliorate the situation. On the one hand, the country inherited a complex health infrastructure which requires resources for operating and maintaining that may be well beyond the country's means. Yet, on the other hand, the needs of the population are high and the provision of social services is costly given the geography of the country. An estimated 75 percent of the population lives in rural areas and much of the country is mountainous.

47. This report presents and analyzes the results of the PETS. The analysis provides significant detailed information on the flow of funds and management of human resources and other inputs. Some common themes from the analysis are as follows:

- The health budget is fragmented and control over funds is poor**.** An estimated 76 percent of the public health budget was contributed by local governments (oblast, rayon, and jamoat) with the remainder from the Republican budget. There is no functioning system for the government to adequately monitor who gets the funds and how they are spent. This is exacerbated by the fact that the frontline providers who are the ultimate recipients of these funds or in-kind inputs do not have approved budgets. Moreover, since most facilities receive inputs (such as medicines and food) in kind rather than in cash, monitoring the use of these resources is difficult especially since many of these items can be diverted for sale on the black market

- Resource allocations by the central and local governments vary enormously by oblast and rayon even when controlling for type and size of facility**.** Oblasts and rayons in particular raise revenues locally, some of which is kept by the administration to be distributed to various sectors (e.g., health). This variation shows the high degree of discretionary power at the oblast and rayon level as well a reflection of the fragmented health budget. It is also indicative of the inability of the central ministry to have its norms applied and thus, calls into question the control of the central government on the health care system.

- The discretionary powers of the Chief Doctors of the CRH over budgetary resources, wages, and personnel are extensive while oversight of their use of funds and actions is limited. The bulk of health care resources are turned over to the Central Rayon Hospitals to distributed to among the health facilities in the rayon. In addition, the Chief Doctors can allocate stavkas at their discretion – the monetary value of these stavkas is a high share of the health budget.

- Rural primary health care facilities appear to be systematically under funded**.** The majority of resources are allocated to hospitals and secondarily to urban polyclinics with little left over for rural facilities. Furthermore, even remuneration for rural health employees appears to be low which may explain the difficulty of getting

doctors to work in these areas.[3] Rural PHC facilities also receive many fewer funds or in kind allocations (e.g., drugs) than urban facilities making it difficult to provide reasonable quality services to patients.

48. The problems of regional variability of health expenditures, poor control of resources, and underfunding of rural PHC are a manifestation of certain fundamentals of the health care financing system. They represent the rules established, the abuse of these rules by those with discretionary power, and finally the choices made by policy makers to allocate resources to one area (i.e., urban hospitals) at the expense of primary health care. Specifically, the PETS has helped to highlight three important questions that deserve consideration by Tajikistan's policy maker.

49. First, if a large part of the system is barely functioning should certain facilities be downsized and closed*?* As mentioned, the SVAs (rural physician ambulatory facilities) and medical houses get few resources besides health care personnel. Moreover, relatively few doctors are willing to work in such conditions which lead to a poor mix of inputs. Though the rural population desperately needs health care services (no matter how inadequate), it is probably the poor that visit these facilities while those with the financial means bypass the PHC to reach the functioning hospitals. To what extent, does this imply that some facilities could perhaps be closed with rural hospitals providing better outreach services?

50. Second, greater public funds as well as more efficient use of funds can provide much needed resources for the improving the health care system*.* On the one hand, public resources devoted to the health sector are low and more are needed to reach even minimally acceptable standards of care to the population. On the other hand, the existing public resources are so poorly spent, that without substantial changes, a large portion of any additional resources channeled into the system will be wasted. Consequently, an increase in public resources to the health sector must be accompanied by large reforms – that may face hurdles in implementation given the competing interest of various stakeholders in the sector.

51. Third, though it is apparent that frontline facilities do not receive sufficient funds, it is not obvious how large of a budget they should each be receiving to provide reasonable services to their patients*.* In order to get even a ballpark figure, we would need better knowledge on how many visitors and for what purposes they visit a health care facility. This is something that could be done through better record keeping at the facility level or through exit surveys, yet without this information it is difficult to estimate the overall level of health care expenditure that is needed in Tajikistan.

52. The PETS has provided many interesting insights into the strengths and weaknesses of the health care system. It has extended our knowledge of how the system functions, who implements policy, and the allocation of resources by facility. However, in the absence of approved budgets for health care facilities, we remain in the dark about whether funds reach the frontline providers and the patients.

[3] There is insufficient information to determine the level of variation in compensation when corrected for the cost of living. However, the fact that in Dushanbe even the unskilled hospital attendants are paid higher than doctors in the regions indicates some degree of preferential treatment.

1. INTRODUCTION

1.1 ***The Tajikistan health care system continues to remain in near crisis despite the return of peace and political stability in recent years and the steps taken by the Government to counter this decline.*** The health of Tajikistan's population is precarious as indicated by statistics on morbidity and mortality both from official and other survey data sources. Over the past decade, the health challenges facing Tajikistan have grown including the resurgence of communicable diseases such as malaria, typhoid and measles. Also, the high level of poverty in the country has increased the vulnerability of the population to ill health, especially of children who suffer high rates of chronic malnutrition.[4]

1.2 ***This worsening in the population's health status is a result of several factors that include but go beyond the health care system itself.*** The deterioration of physical infrastructure, especially in water and sanitation, has adversely affected the health of many and has promoted the spread of communicable diseases. High poverty also limits the population's ability to access care because of cost factors. Yet, to many in Tajikistan, it is the deterioration in the quality of the health care system itself that undermines the health status of the population. Both the preventive care services—such as immunization and ante- and post-natal care—and the curative services no longer meet minimum acceptable standards to be truly effective in meeting the needs of the population.

1.3 ***Yet the public sector in Tajikistan does provide funding for the health care system.*** Whether resources are adequate and whether they are effectively spent requires understanding the flow of funds within the health system – from government ministries and agencies to the frontline providers. This report shares the results from a Public Expenditure Tracking Survey (PETS) which provides information on where and on what public health care monies are spent on. The PETS findings will be helpful as they will identify bottlenecks to the flows of funds from the government to front line service delivery, thus allowing us to give recommendations for addressing these bottlenecks to service delivery.

A. WHAT WILL THE PETXS ANALYSIS CONTRIBUTE?

1.4 ***The main objective of this study is to assist the government in improving the public financial system to ensure efficient and appropriate use of scarce resource.*** Public spending is one of the key instruments available to the government in achieving the health MDGs such as life expectancy and mortality rate. Given resource scarcity, the government needs to focus its effort in ensuring that the fund reaches health facilities and the fund is spent as intended. However, the ability of a government – at any level –to channel resources to its priorities depends on the function of a public financial system including a monitor mechanism. The findings of the PETS will provide a basis for improved spending in the health sector. By identifying the weaknesses in the public financial system, improvements can be made in the key areas formal budget rules and improved transparency in resource allocation and utilization. This would also translate into improved service delivery, transparency and accountability in the sector. In addition, the PETS provides a based line information for fine-tuning health financing reforms such as per capita financing as the PETS was conducted prior to the introduction of per capita financing in some rayons.

[4] Almost one-third of children suffer from chronic malnutrition in Tajikistan.

1.5 ***The PETS allows the analysis of the "breaks in the chain" between budgets and desired service delivery.*** In Tajikistan, prior analysis has indicated that due to the following four reasons, the effectiveness of public spending on health is undermined: (i) spending on the wrong goods or professionals; (ii) failure of funds to reach frontline service providers, e.g., central rayon/city hospitals and primary health care facilities; (iii) weak provider incentives for service provision; and (iv) demand-side failures that prevent households from taking advantage of service provision. The Tajikistan health sector PETS provides evidence and details on how, where, and to what degree these breaks in the chain occur.

1.6 ***The PETS also provides important information on the roles of various levels of government – central, oblast, rayon, and jamoat***. The current public expenditure management system is fragmented with multiple sources of financing as well as multiple entities responsible for the allocation of resources. By understanding the financial contributions of various levels of government, accountability mechanisms, and incentives, a clear picture is provided to what extent national policies can impact the allocation of health expenditures and ultimately health outcomes. This is a major contribution of the PETS as this will help to provides critical information for helping the central government and donors to formulate a realistic strategy for influencing the flow of resources to priority areas.

Scope of the PETS

1.7 ***The PETS focuses on budget management issues including budget preparation, allocation, execution, internal and external control, and financial reports.*** It analyzes final budgets for health against original planned budgets and track budget execution for the health sector against approved health budgets to determine how much of the budget is reaching service providers and if the fund for wages and salaries and other inputs reached health facility on time. Problems in budget execution, including levels of allocation and delays in receiving recurrent expenditures, and other supplies are likely to have adverse impact on service delivery outcomes. These in turn result in low levels of health care services and utilization and technical inefficiencies (low productivity of staff). The PETS will inform the government of the reliability and predictability of the health budget.

1.8 ***The PETS will examine budget rules and discretionary authority in budget management at each level of local government.*** The PETS examines the scope of discretion in budget management that local government officials (rayon chairman, chief doctor of central rayon hospital, jamoat chairman, and head doctor of a health facility) have. In this context, the survey compares practices in budget preparation and execution with formal rules indicated in the budget law. The budget discretion likely arises from unclear rules or regulations and weak oversight and accountability, thus subject to individual's interpretations and utilization for his own advantages. This can lead to diversion of budgetary resource to be utilized for unplanned activities.

1.9 ***The PETS analyzes the allocation of resources for wages and non-wage inputs to gain insight on how much was allocated and how much was received***. As wage accounts for about 60 percent of total health expenditure, the analysis of wage and salaries at a facility level will shed light on actual income of health care workers as well as the reallocation of wages bill. The PETS examines the characteristics of health workers (i.e., age, gender, position, education, experience, skills, training, and job satisfaction), workloads, their earning (formal and informal), absenteeism, and hiring and firing of health care workers. To understand the total earning of health workers, the PETS analyzes unoccupied stavkas (i.e., workloads) that can be used for top-

up salaries since the budget law protects the wage bill based on number of workloads and doctors per health facilities.

1.10 ***The analysis of non-protected expenditures including drugs, food, medical equipment, repair and maintenance, and travel budget including fuels is also crucial for improving quality of health care.*** The inputs are complementary to the health personnel – and only *together* do they ensure the effectiveness of any health care provided. This study compares non-wage inputs (e.g., medicine) per unit of patient across health facilities and outputs of health care facilities such as number of inpatients, outpatients, and immunized children. These expenditures are subject to local government's discretion as they can be reallocated and diverted for other purposes. The analysis also links inputs to outputs of services delivered by health care facilities across survey samples.

1.11 ***The PETS includes an analysis of immunization. The purpose of the immunization component is to fill in gaps in knowledge, both at the country level and more globally, on the reliability and predictability of resource flows to front line providers.*** The activity entails a diagnostic assessment of expenditures and resource flows for immunization services, including an evaluation of flows of public and donor resources, as well as commodity stocks and flows (vaccines and injection supplies) from national to public sector service delivery points to examine amounts received, timing of receipts, uses of funds, services provided, and the human resources and their capacity involved in providing immunization services.

1.12 ***The PETS does not include an analysis of the procurement system in the health sector.*** Centralized procurement systems for certain health care inputs such as medicines can make an important contribution to cost savings for the government and, hence, the population. Yet in other cases, decentralized procurement may be more appropriate in instances were small amounts of inputs are needed, or the goods are best procured locally (e.g., hospital food), or a centralized procurement system cannot meet the timetable requirements of local health systems. In order to understand whether the current procurement practices for health care can be strengthened, additional analytical work needs to be carried out and international experience on the topic shared as it is not covered in this study.

B. RESULTS OF HEALTH SECTOR ANALYSIS

1.13 ***The PETS builds upon the work of previous reports, in particular the Tajikistan Health Policy Note (2005) and the Poverty Assessment (2005).*** The Health Policy Note highlighted the inefficiencies existing in health expenditures – both allocative and technical.[5] It concluded that (i) limited public financing for health was largely targeted at hospital-based care, (ii) out-of-pocket payments constituted 71 percent of health expenditures and households contribute 96 percent of funds for outpatient drugs and 52 percent for inpatient drugs, and (iii) donors provide significant resources for variable inputs such as pharmaceuticals and vaccines.

1.14 ***The 2005 Poverty Assessment6 identifies out-of-pocket cost of health care as a prominent reason that deters households from seeking health care.*** Amongst the top 20 percent of the population, many did not seek health care – more so than in earlier times. Specifically, in 2003, 38 percent of this group cited expense as a reason to *not* seek medical care which increased

[5] Allocative efficiency gains can be achieved through changing the allocation of resources within the health sector. Technical efficiency improvements requires the change in the input and output mix, e.g., reducing the purchase of wrong goods.

[6] World Bank, 2005. Republic of Tajikistan: Poverty Assessment Update.

from 24 percent in 1999. The percentage of households reporting that they had to borrow money or sell household assets to pay for health care during the last 12 months increased during the same period. On average, spending on drugs accounted for the largest portion of health care expenditure borne by households, especially the poorest quintile.[7]

1.15 ***The main findings of the PETS are as follows:***

(a) The health sector continues to be severely under-funded. Budget allocations are low and donor assistance makes a large contribution to the overall spending on health services.

(b) Few resources reach front line providers – in primary health care facilities – who are expected to provide the first level of care for the population, thus serving to exacerbate the pressures on secondary care.

(c) The degree of discretion in the allocation of scarce resources is too large. This not only applies to distribution of stavkas but also to the bulk of inputs.

(d) There is a wide dispersion in the availability of resources among rayons that translates into an inequitable distribution of quality health care.

1.16 ***The PETS findings point to a fundamental challenge that will require significant commitment by the government to address.*** On the one hand, public resources devoted to the health sector are low and more are needed to reach even minimally acceptable standards of care to the population. On the other hand, the existing public resources are so poorly spent, that without substantial changes, a large portion of any additional resources channeled into the system will be wasted. Consequently, an increase in public resources to the health sector must be accompanied by large reforms that will be difficult to implement given the competing interest of various stakeholders in the sector.

C. ORGANIZATION OF REPORT

1.17 ***The report is organized into six chapters with an annex.*** Following the introduction, Chapter 2 provides the context and background for the health sector including organizational structure of the sector, health sector reform, allocation of the health budget, and the flows of funds. Chapter 3, 4, and 5 discuss respectively main findings on budget management, human resource, drugs and other inputs, and service delivery output. Chapter 6 concludes the report and offers recommendations for improving budget management in the health sector. The annex on the survey methodology and data discuss sample design and sampling frame, survey instruments, coverage, data processing and analysis, survey implementation, lessons learned and recommendations.

[7] Although the availability of drugs from both donors and in-market channels has increased significantly, anecdotal evidence shows that some drug donations (to be distributed to the population free of charge) are sold in health facilities and pharmacies. Interviews of health care users at a health service point shows that drugs stock-outs are a problem in the health sector. (Source: The World Bank, 2005, "Health Policy Note".)

2. A DESCRIPTION OF THE HEALTH SECTOR

2.1 ***This chapter gives an overview of the health sector in Tajikistan in order to provide an understanding of the context in which the PETS was carried out.*** The roles of institutions, budgetary allocations, and policies have a decisive impact on the flow of funds in the system and, ultimately, on health outcomes in the country. Consequently, without understanding the structure of health sector, little can be done to improve it in any meaningful or sustainable manner. Moreover, given that the various components of the system working together produce the poor health outcomes, addressing the reform of the system in a piecemeal manner will at best lead to slow progress and at worst to deteriorating health outcomes.

2.2 The main conclusions of this chapter are as follows:

- The majority of public health resources are devoted to financing high-cost low-impact hospital-based care at the expense of primary health care. This choice exacerbates mortality and morbidity rates in Tajikistan.

- The institution responsible for health care policy (Ministry of Health) does not have the responsibility for health care financing (Ministry of Finance).

- The bulk of public funds for health care are allocated by local governments and secondarily by the Ministry of Finance. The Ministry of Health has limited impact on how funds are allocated within the sector.

- It is not clear which institutions are accountable for the quality and appropriate allocation of health care resources.

2.3 ***This chapter will examine four areas:*** (i) health outcomes, (ii) the organizational structure of the health system, (iii) challenges in health financing, and (iv) policy reforms in the health sector.

A. HEALTH OUTCOMES

2.4 ***Health outcomes in Tajikistan reflect the low living standards of the population.*** Morbidity and mortality rates are high, especially among infants and children. Life expectancy at birth is estimated at [64] years in [2005] – much lower than official statistics, which estimates it to be 72 years for 2001. Infant mortality rates are estimated at [59] per 1,000 live births in 2005 down from 87 per 1,000 in 2001.[8] WHO estimates that between 2000 and 2003, under-five years of age child mortality dropped at an average annual rate of around 0.5 percent, while the respective rate for the region as a whole was about 3.5 percent. In addition, maternal mortality is still very high – at about 50 per 100,000 live births in 2003 but the true figure may be closer to 100.[9] Data show that between 1990 and 2002, the Tajikistan maternal mortality rate (MMR) fell

[8] The WHO estimates for under five mortality rates per 1,000 live births are regularly reported. Under five mortality in Tajikistan is at most about one-fifth of the WHO estimate and probably only one-sixth. Under-registration of child deaths mostly occurs for children under the age of 1 year.

[9] Due to difficulties in measurement Maternal mortality is very difficult to ascertain even in countries with strong registration systems, and the level of under-registration in Tajikistan is difficult to interpret.

by only about 5 percent - which is short of the 74 percent reduction needed to meet the Millennium Development Goal (MDG) target. This is unlikely because of low levels of awareness about maternal health; many births are still unattended – for example in 2000, about 30 percent of all births were still unattended by a trained person; and access to reproductive health and prenatal services remains limited.

2.5 ***Communicable diseases have been on the rise due in part to the deterioration of basic infrastructure and social services.*** In recent years, infectious diseases – such as typhoid, dysentery, brucellosis, anthrax, and hepatitis – have seen a reemergence in Tajikistan. This has not only adversely affected the health of the population but also has resulted in an economic burden for families and communities. The growth in the prevalence of typhoid, diarrhea, and dysentery are a result of the breakdown in the water supply and sanitation system. Brucellosis and anthrax are also more common in rural areas than was previously the case which is a reflection of the deterioration in the health care of livestock. The growth in hepatitis is a consequence of the poor quality of medical services (possibly through the reuse of syringes due to tighter budgets), needle sharing between drug users, and crowded living conditions.

2.6 ***There has also been an increase in the epidemics of HIV/AIDS, tuberculosis, and malaria.*** The estimated number of people living with HIV/AIDS shows an alarming trend. UNAIDS estimates that at end of 2005 there were 4, 900 people living with HIV/AIDS. This is more than triple the 1, 300 people reported in 2003 (UNAIDS Report 2006). Tuberculosis is a major threat and is worsening: incidence quadrupled between 1993 and 2002, from 12 cases per 100,000 in 1993 to 64 per 100,000 in 2002. The number of notified tuberculosis cases in 2004 was 4,529 while DOTS coverage was only 32 percent. The malaria situation is serious - WHO reports that endemic malaria has returned to the Khatlon region where the number of cases may be as high as 150,000–250,000. The estimated total of symptomatic and asymptomatic malaria cases for the whole country is between 300,000 and 400,000.

2.7 ***The burden of non-communicable diseases is considerable.*** In 2003, non-communicable diseases (NCD) accounted for about 85 percent of all deaths in Tajikistan while external causes accounted for about 3 percent. Cardiovascular diseases were the main causes of death in 2003, responsible for 57 percent of overall mortality. Respiratory diseases accounted for about 11 percent of total mortality in 2003. Overall external causes were responsible for 33 deaths per 100,000 persons in Tajikistan in 2003. The promotion of population level health and disease prevention programs that collaborate across relevant sectors would be important steps in lowering mortality rates. Additional steps include actively targeting high factors for largely preventable conditions that include cardiovascular disease, cancer, mental health problems, diabetes mellitus, and chronic respiratory disease.

2.8 ***Access to reproductive health for the young population is limited.*** Tajikistan is already experiencing a sustained decline in fertility though this remains at a level higher than its neighbors.[10] It has a youthful population with 62 percent under the age 24 years (based on 2000 information). The proportion of the population in reproductive ages is about 50 percent implying that reproductive health services are important and will be in high demand. Consequently, there is a need to ensure that the population has access to reliable and safe methods of contraceptives. Most recent data from UNFPA show that the contraceptive prevalence rate for modern methods for women aged 15-24 years is only 27 percent compared to 63 percent among women of the

[10] According to the United Nations Fund for Population Activities' (UNFPA) most recent data, the total fertility rate for Tajikistan is around 3.7 children per woman compared to 2.4 for Uzbekistan; 2.6 for Kyrgyzstan and 2.0 for Kazakhstan.

same age in Uzbekistan; about 50 percent in Kyrgyzstan and Kazakhstan. Tackling reproductive health needs of migrants and other vulnerable populations deserves significant attention especially in a situation where the prevalence of HIV continues to grow.

2.9 ***Nutritional deficiencies and its accompanying conditions are issues that need attention.*** Malnutrition affects a significant share of the population in Tajikistan. An estimated 42 percent of children under the age of 5 years were stunted in 2003; and 15 percent of newborns had low birth weight. These poor outcomes are also reflected in the food insecurity of the population. An estimated 10 percent of the rural population is chronically food insecure and an additional 17 percent are highly vulnerable to food insecurity.[11] In conjunction with general problems accessing food, the population also suffers from specific nutrient deficiencies. For example, an estimated 35 percent of the population is iodine deficient which results in disorders such as goiter and intellectual retardation. Also, anemia is prevalent among the population and could be easily eradicated through the iron fortification of wheat.

2.10 ***These poor health outcomes are a result of a deficient health system, including limited and misallocation of resources, structural deficiencies and limited capacity for policy formulation as described in the following sections.*** However some of the challenges that the sector faces might be better explained by the organizational structure of the health sector.

B. ORGANIZATIONAL STRUCTURE OF THE HEALTH SYSTEM

2.11 ***The current structure of the health care system remains similar to the Soviet model, with the State as the main provider of care services.12*** The health services organization mirrors the administrative structure of the country whereby care services are divided into four horizontal levels of administration, and also into separate vertical pillars for national program.[13] The four levels are the central, oblast, rayon, and jamoat levels of government – or perhaps more accurately, administrations.

2.12 ***The MOH is responsible for health policy and manages national level facilities.*** Its responsibilities include development of health care policy and priority identification; disease control; coordination; management of Republican level institutions, research institutes and health educational institutions for health professionals; and pharmaceutical policy and regulation. It provides guidelines to the oblast health departments regarding health priorities. However, its responsibilities do not include oversight of sub-national facilities nor does its modest size – in terms of personnel directly working for the ministry – allow for its responsibilities to be expanded. It is also the main institution responsible for interfacing with donors interested in actively promoting development of the health sector.

2.13 ***Though national policies are made at the central level, responsibility for the delivery of services is mostly decentralized to the oblast and rayon level.*** The MOH is in charge of national-level care services while five oblasts and 61 rayons run the larger part of regional and local health services which are responsible for managing health care services. Oblast health departments manage regional-level health facilities, such as large hospitals and polyclinics, and have dual accountability to the MOH (on professional matters) and to the oblast administration. The central management of most health services is located within hospitals, with the chief physician of the central rayon hospital (CRH) administering all health services in the rayon (district). The chief

[11] World Food Program survey, 2004.

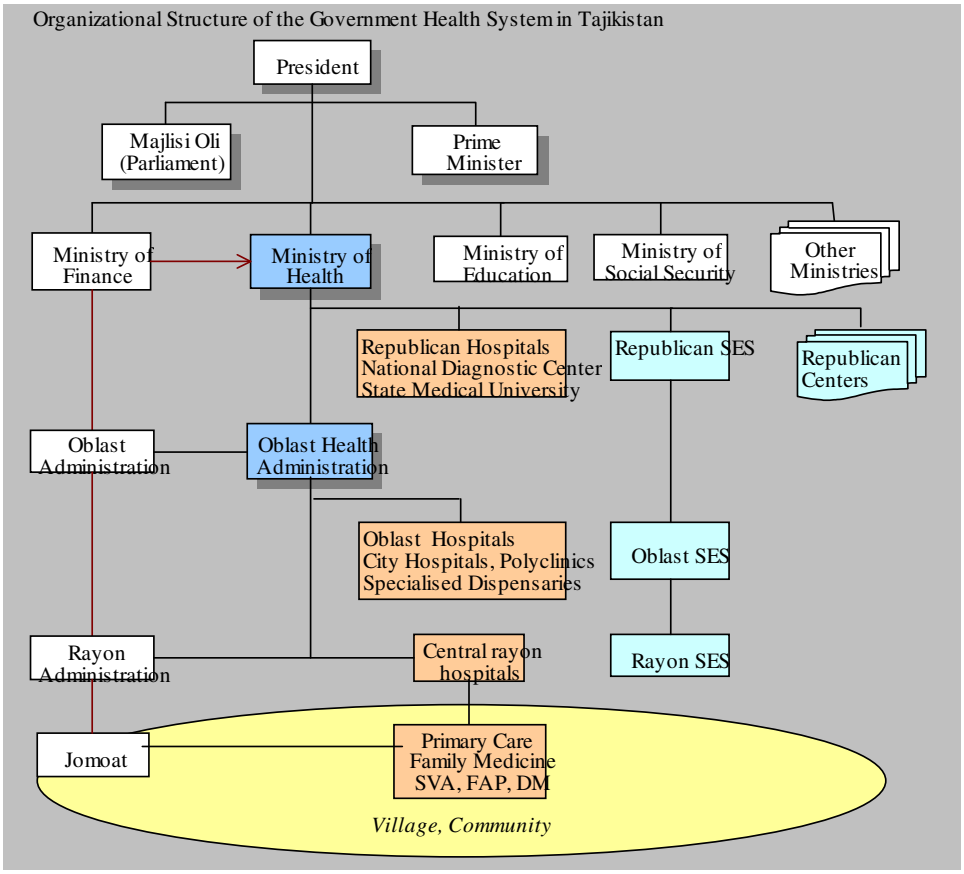
[12] Private (out-of-pocket) spending is higher than public sources of sector financing.

[13] Source: Tajikistan HIT.

doctor has deputies responsible for rural clinics, polyclinics, disease prevention, and mother and child services. There are a total of 356 jamoats and 2,617 health care facilities in Tajikistan.

2.14 ***The PETS study sheds greater light on the roles, responsibilities and allocation of funds by lower levels of government.*** The PETS study highlights – on the one hand – the decentralized nature of the health system especially in terms of health financing as will be discussed below. Yet, on the other hand, aspects of the system are highly centralized such as the formulation of health care policy by the MOH and the Ministry of Finance's (MOF) role in the allocation of the bulk of the Republican resources. Thus, the dual nature of the system makes transparency and accountability both more difficult to achieve yet all the more important. For example, questions such as who is responsible for implementing the government's health policy may have appeared straightforward but is less so in light of the decentralized system.

Figure 2.1: Organizational Structure of the Government Health System in Tajikistan



C. OVERVIEW OF THE HEALTH BUDGET ALLOCATION

2.15 ***Public spending on health has slightly increased consistent with sector priorities.*** Prior to 2003, the average wage in the public sector was low and lagged behind that of the private sector. In a program agreed between the Government and the IMF, wage increases were only allowed if accompanied by education and health sector reform. Due to the difficulty of initiating reform in a timely manger, wages remained low and the result was an exodus of workers from the health sector and from rural areas hence creating a shortage of skilled personnel. In 2005 the government increased spending on health from 4.8 to 5.1 percent of total expenditure which is equivalent to 1.1 percent of GDP in 2005. A large proportion of this increase in health spending was allocated for increases in wages for health sector staff as well as for public investments. In order to catch up with previously restricted wage increases agreed with the IMF, the wage bill increased by 44 percent in 2002, 22 percent in 2003, 32 percent in 2004, and 96 percent in 2005 accompanied by actions to start implementing the Health Sector Financing Strategy of 2004.

2.16 ***Wages and salaries still account for the largest share in total budgetary spending on health.*** In the health sector wage bill as share of total health expenditure increased to 43 percent in 2005 (compared to 37 percent in 2002) mainly due to the increase in wage bill at the local government level. This increase is probably mostly explained by the Government's decision to raise the wages of primary health care workers as a means to stem the departure of doctors and paramedical officers who were leaving the profession and the country as result of very poor pay. MOF data show that spending on goods and services (material inputs, utilities, training, and etc) which provide inputs instrumental in the quality of health service declined from around 57 percent in 2002 to 41 percent of total health expenditure in 2005. More resources have increasingly been allocated for communal services such as gas, electricity, water; and also for repairs and maintenance while expenditures on food and drugs declined. Capital expenditure has increased to compensate for years of poor maintenance and inadequate investment as well as the destruction from the civil war. The share of capital expenditure in the health budget increased from 10 percent in 2002 to 15 percent in 2005.

2.17 ***An oversized and an underutilized network of hospitals still receive the larger share of public financing.*** Since budget allocation across service categories is still based on the Soviet system which allocates according to inputs such as the number of beds, this has meant that in 2003 hospitals consumed 63 percent of total health spending, 64 percent was consumed by ambulatory care and only 1 percent was consumed by Public Health expenditures. 2005 data show that the share of spending on primary health care level of care remained unchanged with public spending on hospitals still accounting for about 65 percent of total spending. A reduction in spending on hospital service in the Republican budget was reallocated to public health affair and services in the Republican budget. At a local government level, spending on hospital services remained unchanged. Spending on polyclinics mostly at local government level has also not changed as it declined in 2003 and subsequently increased in 2004 and 2005. The increase was at the expense of a reduction in other health affairs and services, especially in 2005.

2.18 ***Allocation of public resource across regions is still on the basis of inputs and remains inequitable.*** Public spending per capita remains comparatively higher for the remote and mountainous GBAO region. This region received the highest per capita public health funding, followed by the capital Dushanbe, Sugd and Khatlon; RRS received the lowest per capita health spending. This inequitable allocation of resources is a reflection of norm based budget allocation where the budget is allocated based on the previous year's budget rather than the needs of the

population. At some earlier period, the budget used to be based on items such as the number of doctors per population and the number of hospital beds adjusted for inflation.

2.19 ***Provision of health services are the responsibilities of both central and local governments but the bulk of public health expenditures is carried out by local governments.*** The central government provide health care service with the financing from the Republican budget, while local governments (oblasts, rayons, and towns) provide health services financed by local government budgets (from own tax revenue and transfers from Republican budget). It is estimated that as much as 80 percent of public expenditures on health are allocated by local governments; and the remaining 20 percent is allocated at the Republican level and covers financing for specialized hospitals in Dushanbe (Republican Institutes) and to cover the administrative costs of the MOH. More recent data show that health spending by local governments declined to 71 percent of total health budget in 2004 (from 79 percent in 2001) before reversing upward to 76 percent of total in 2005. Though local authorities are responsible for a significant proportion of health care provision and manage health facilities they remain accountable to the MOH on clinical and policy issues, still sector ministries have little influence over the allocation of resources at the local level.

2.20 ***Budget formation continues to reflect normative-based process.*** The process of formulating the health care budget from Republican budget funds remains highly centralized and based primarily on inputs, perpetuating incentives to maintain a large infrastructure of health facilities. Draft budgets are formulated through bottom-up estimates of expenditure needs based on inputs such as number of health facilities, hospital beds, staff, etc. and salaries, energy and utility costs, protected items, and inflation targets set by the MOF. Oblasts, Dushanbe city, GBAO and rayons of Republican subordination submit draft budgets to the MOF which maintain the responsibility for the overall budget process rests. The final local budgets are decided following (not very transparent) negotiations with the MOF taking into account targets as well as revenue projections (2005 PEIR); and usually result in final budgets that are 47 percent to 93 percent lower that the original normative-based planned budgets. Sector allocations within the local budget are recommended by the MOF and the MOH, though the final sector allocations are determined at the local level which has to maintain obligations for protected items such as salaries, pensions and utility payments.

2.21 ***Sources of public funds for health care are fragmented down to the jamoat level.*** Oblast administrations (hukumats) receive the final budget allocations and these are managed by their finance departments, though the Oblast and rayon health sector budget allocations are usually insufficient to operate the local health care systems. This is usually supplemented by jamoats which supply supplementary funds in cash and in kind. Furthermore, the budget is not formed in an integrated way across levels of the health care system. The budget for hospitals and polyclinics is formed mainly through the MOF and local administration budget process, whereas the budget for Sanitary and Epidemiology Services (SES) is formed and disbursed vertically from the national level, and the PHC budget is ultimately a patchwork of budget and in-kind funding generated at the local level. The bottom-up budget formation process is usually substantially reduced in the approved budget and the allocations actually received at the local level are made in a more discretionary manner.

2.22 ***As the above section demonstrates, there are numerous challenges facing the sector.*** Some of these challenges have been acknowledged by the Government and some are being addressed as described in the following sections.

D. CHALLENGES IN HEALTH FINANCING

2.23 ***The health financing system faces several challenges which presently undermine the delivery and quality of care.*** Many of these challenges are well known and others have been identified more clearly through this study. Some of the greatest challenges include a low level of public health spending, fragmentation of the health budget formulation, misallocation of resources, and high out-of-pocket payment limits access of the poor to health service. These problems adversely affect the quality of health care as well as the access of the poor to health service.

2.24 ***There is a disconnection between the institutions responsible for health policy design and for allocation of health expenditures which undermines accountability and provides opportunities for the diversion of resources.*** As mentioned earlier, the MOH has limited involvement in the formulation of the health budget both at the Republican and local levels despite being responsible for health policy. The MOF is the key institution responsible for allocating the central government resources which it does directly to the oblast administration. Resources eventually are channeled to Central Rayon Hospitals (CRH) whose chief allocates the resources for all facilities in the rayon. Thus, there is no mechanism that can assure that the funding allocation by the CRH reflects the priorities identified in the government's health policy. As a result, it is difficult to hold the MOH accountable for the health outcomes. Finally, the discretion of local government in managing the health budget weakens transparency in the allocation of health funds and increases the scope for diversion of the allocated health funds for other activities.

2.25 ***Misallocation of the limited public resources for the sector raises a serious concern as it exacerbates morbidity and mortality rates.*** As in many other developing countries, health resources are skewed towards high-cost and low-impact services. Most of the public resources for health care are allocated to hospital services which are unnecessarily large and under-utilized. The allocation of public resource to primary care is treated as a residual financing despite providing important preventive care to the majority of the population. Due to limited resource envelope, most of the allocated resources are typically spent on wage and salaries of health personnel. There is little funding remaining for the purchase of other inputs such as medicine, and medical equipment that would improve the impact of service delivery on the general health of the population.

2.26 ***Private out-of-pocket expenditures comprise the bulk of health care financing rather than public sources.*** Individuals, the Republican budget, the oblast administration and donors are all important – though by no means equally important – sources of health care financing in Tajikistan. In 2005, government spending on health accounted for 1.1 percent of GDP, while total health spending was 4.6 percent of GDP.[14] Donors and individuals contribute about 13 percent and 71 percent respectively of total health spending, with the remaining [16 percent] coming from public financing. In addition, households paid for 96 percent of outpatient drugs, 61 percent for outpatient services, 52 percent of funds for inpatient drugs and 37 percent of funds for hospital services. The low share of public health care financing in Tajikistan is indicative of the government's inability to meet the sectoral challenges without major reforms, these levels of public financing for health in Tajikistan are below the levels of countries of similar income levels and the lowest among ECA countries.

[14] WHO, Tajikistan: National Expenditure on Health (www.who.org), data for 1999-2005.

2.27 ***Excessive dependence on out-of-pocket payments creates high barriers in health care access for the poor and vulnerable.*** The 2005 Poverty Assessment found that households were not able to access health services because of financial barriers.[15] The results of the Health Facility Survey (HFS) indicate that although primary health care (PHC) services were free, 15 percent of PHC facility income was from user fees, while it was only 14 percent for outpatient services and 8 percent for inpatient services.

2.28 ***As a result, the quality of care is low.*** This is partly because the health system does not provide incentives for delivery of quality cost efficient services and because the health care system infrastructure has deteriorated. Poor quality of medical education also has an effect on quality of care and services in the sector. Weak outcomes in other key sectors, as well as complex governance and political economy issues have contributed to the weakness of the health sector. Finally, the sector has very limited capacity in health policy design, planning and management; and despite some progress in this area there is still no overall strategy for the sector and donor coordination still needs to be strengthened to ensure consistency in policy directions.

E. POLICY REFORMS IN THE HEALTH SECTOR

2.29 ***The Government of Tajikistan is in broad agreement regarding the need to strengthen the performance of the sector and has embarked on reforms to address some of the challenges above.*** As far back as 1995, the MOH adopted a national program that advocated "Health for all by 2005" The program focused on: (i) disease prevention; (ii) health protection; and (iii) inter-sector cooperation. Some tasks were identified providing a policy framework for action. This was later revised in accordance with HEALTH 21 (the health for all policy framework for the WHO European Region). In 1996, the Government adopted a policy for "Health care reform in Republic of Tajikistan for 2001" which aimed to:

- Strengthen primary health care, reduce the number of hospital beds and introduce the family physicians model of delivery;
- Undertake health financing reforms that will introduce needs and output based funding;
- Improve medical education;
- Update health care technology and procedures;
- Introduce nationwide immunization programs; increase focus on TB and tackle iodine deficiency, and increase focus on infectious disease prevention;
- Develop a national policy on pharmaceutical production and distribution; and
- Privatize limited services such as pharmacies and medical equipment.[16]

2.30 ***Reform of the health sector was implemented in stages beginning with hospital rationalization.*** Tajikistan's hospital management system still suffers from many problems such as overly long hospital stays, over-staffing, and low bed occupancy as well as lack of appropriately skilled doctors and inadequate treatment/diagnostic equipment. Between 1994 and 1996, the MOH initiated the first attempts for rationalization of the health system that led to a 30

[15] Affordability has increased in prominence as a reason for not seeking health care amongst the rich quintile (38 percent in 2003 compared with 24 percent in 1999). The share of households citing expense as a reason for not seeking medical care increased between 1999 and 2003, as did the percentage of households reporting that they had to borrow money or sell household assets to pay for health care during the last 12 months. It is clear that the financial barriers deterring people from seeking care have increased.

[16] Tajikistan Health in Transition. 2000.

percent reduction[17], lowered the length of hospital stay of hospital beds, and consequently the reduction in the number of medical personnel. This was accompanied by opening a nursing hospital and administration, one day stay hospitals, day time hospitals and hospitals in-home. Funds saved from bed reduction (US$5.21 million) were absorbed by state budget. This reduces the health sector's interest and incentives for any future rationalization and cost cutting plans. However, the hospital rationalization had adversely affected the quality of health services delivery as reform of PHC was not implemented in parallel. Limited access to service and a high cost of health care led to a deterioration of key health indicators.

2.31 ***In 2005, the MOH working closely with development partners adopted a Health Financing Strategy which aims to tackle recognized deficiencies in health care financing***. The goals of this strategy are to improve equity, efficiency and cost-effectiveness of the health system through health financing reforms. The steps that need to be taken are large and will require government commitment, buy-in from various stakeholders including the medical professional community, and significant capacity to implement the complicated reforms. Key directions of reforms proposed in the strategy included:

- Establishment of an institutional structure of a single-payer for health care;
- Pooling of sources of public funds for free health care;
- Development and implementation of new provider payment mechanisms;
- Regulation of informal payments in the health system and introduction of formal co-payments;
- Increasing health personnel salaries;
- Reorganization of the system of health services delivery;
- Improving the quality of health care;
- Increasing public financing for health care;
- Improving donor aid coordination in the health sector.

2.32 ***The health financing reform is considered an integral component of PHC strengthening.*** International experience has shown that primary health care is more cost effective in improving health status of the population and achieving health outcomes as primary care plays important role as a gatekeeper. However, the under-funded primary care has led patients especially in urban areas (80 percent) to seek care at hospitals. To strengthen primary care, since 2003 the government has begun implementing reform measures including an increase the number of PHC medical personnel by increasing the salary of PHC workers, development of institutional capacity and retraining existing medical personnel as family doctors and nurses, an improvements in management and performance of PHC, improvements in the conditions of PHC facilities through increasing repair and maintenance of PHC infrastructure, and adopted a health financing reform strategy. The government has now focused on strengthening primary care to reverse the decline in health status.

2.33 ***Since 2005 progress is being made in health financing reforms including introduction of per capita financing for PHC and introduction of a guaranteed Basic Benefits Package (BBP)***. The MOH and MOF have agreed that the next step in financing reforms will be pooling of funds at the Oblast level, a move that will improve equity through a redistribution of funds at the oblast level[18]. Currently, key decisions in the introduction of Per Capita Financing for PHC have been made including the separation of financing of hospitals from that of PHC and incrementally

[17] Bed provision indicators were reduced from 125 in 1992 to 63 in 2002 per 10,000 population.

[18] Pooling of funds at the oblast level is contained in the National Health Financing Strategy 2005-2015.

moving away from input to output-based financing hence providing a better match between needs and resource allocation. In 2007, the government agreed to implement PHC per capita payment in 8 of the planned 15 rayons (2 rayons supported by the World Bank Community Basic Health Project, 2 rayons supported by the ADB Project, and 4 rayons supported by Project Sino). The eight pilot rayons include Dangara and Kulob in Khatlon Oblast; Asht and Spitamen in Soghd Oblast; and Rasht, Varzob, Shahrinav, and Tursunzoda in the Rayons of Republican Subordination (RRS). The key elements of the per capitation financing system include (a) pooling of funds at the rayon level (consolidating rayon and jamoat funds); (b) separation of hospital and PHC budgets; (c) establishment of a PHC network manager and determining the role of the network manager in relationship to the Head of the CRH and the PHC facilities; and (d) increased capacity and autonomy of PHC facilities by involving them more in the budgeting and resource allocation process. However, the per capita budget formula excludes salaries and utilities, as a result, facility managers have flexibility in the allocation of less than 20% of the funds allocation to the facility.

2.34 ***In June 2007, the MOH reintroduced the Basic Benefits Package of health care services that guarantees benefits and specifies co-payments for certain services.*** The BBP provides free services for vulnerable population groups and provides a legal framework for developing the co-payment policy for selected health services in hospitals. The majority of covered services are in PHC. The implementation of BBP in hospitals will support efforts to formalize informal payments by allowing hospitals to charge for services not covered by the state under the BBP (paid services). A medium-term objective of the BBP is to move hospitals away from budget finance to a combination of budgetary funds and fee revenues from patients. Budgetary funds thus freed would be reallocated to other parts of the health system such as PHC and public health.

2.35 ***In addition to the above, the Government has very modestly increased financing for the health sector and plans to continue to do so in the context of the PRSP***. Health worker salaries have increased, especially those of PHC workers. However, limited policy attention is directed so far to addressing problems of ghost workers, absenteeism and lack of health worker accountability for results. Without addressing these problems, the impact of increased wages is reduced. The GOT is making preparations for the design of a comprehensive sector strategy in addition to the health sector financing strategy that aims at improving fiscal sustainability of the health system, while addressing equity concerns and is exploring with donors the possibility of a SWAp in the sector. Still, further efforts are needed in responding to the mismatch between resources and services (including measures to decrease costs and increase revenues); to strengthen PHC; and to tackle public sector management issues that affect the health sector's delivery of services.

3. BUDGET MANAGEMENT IN THE HEALTH SECTOR

3.1 ***This chapter discusses the findings of the Public Expenditure Tracking Survey (PETS) based on the questionnaires for rayons/cities, jamoats, central rayon hospitals, and health facilities***. The survey includes budget information of 30 rayons and cities (including Dushanbe), 104 jamoats, 28 central rayon and city hospitals, and 326 facilities (medical houses/FAPs, Rural Physician Ambulatory Facilities (SVA), and rural hospitals (SUB)). The following sections discuss the structure of health budget at various levels, budget preparation, execution, internal control, and decision making authority based on the survey results. It also highlights issues emerging from tracking health expenditures in Tajikistan and some results.

A. THE HEALTH BUDGET

3.2 ***As discussed in the previous chapter, health care financing in Tajikistan involves many players, and consequently, complicates the ability of the government to influence – let alone implement – health care policy.*** In this section, we provide some key points to bear in mind when trying to understand the sources and distribution of funds targeted towards health care.

3.3 ***The responsibility for delivering health care is shared between the central and local governments***. The law on local public administration does not give exclusive responsibility to any one administrative level; however, the separation of responsibility can be observed from practices in resource allocation. The central government (Republican) is primarily responsible for providing secondary and tertiary health care, public health affairs and services, and other health care services. Alternatively, the local government is responsible for the provision of general hospital services, polyclinic services and public health services. Thus, there is a legal basis – if not necessarily explicit – for the involvement of all levels of local government in the delivery of health care services.

3.4 ***Financing of health care is fragmented due to multiple budget formulation processes across levels of the health system and multiple sources of public funding.*** As discussed previously, the Oblast, rayon, and jamoat administrations all contribute resources to the delivery of the health care as does the Ministry of Finance. The majority of Republican (i.e., central) and local budgets are allocated towards recurrent cost and donor funds are used primarily to fund the public investment program which covers capital expenditures in the health system. In addition to on-budget resources, there are also extra budgetary funds (such as special funds raised from fee-for-service and Presidential funds) that are sometimes deployed towards the health sector. However, most importantly perhaps is that the local budgets do not identify a specific line item for primary health care. Instead, it is lumped together with the budget allocated and managed by the Central Rayon Hospitals and jamoats. Thus, any rigorous assessment of the effective use of resources is complicated by the lack of proper and transparent classification of expenditures.

3.5 ***The national health budget does not reflect nor include the budget outside the Ministry of Health and hence reflects only a small portion of total public health expenditures.*** A consolidated health budget that includes all financing sources of the whole health sector is not readily available. One would have to consolidate all health budgets (the Republican health budget, the local health budget, and capital investment for health in the PIP). The Republican heath budget includes funding for the Ministry of Health, Republican hospitals, national diagnostic center, state medical university, and public health services. It also includes other health

care facilities operated by other ministries and state agencies (Ministry of Agriculture, Ministry of Irrigation and Water Supply, Ministry of Environment, the Republican Center for Healthy Lifestyles (established in 1999), and a National Inter-Agency Coordinating Committee)[19]. These facilities are financed through the budgets of their respective ministries and agencies. Local health budget finances health service delivered by all facilities operating in territories of oblasts, cities, rayons, and jamoats. Finally, capital investment of the health sector is financed by the public investment program (foreign-financed projects) and centralized state investment program (CSIP).

The Republican Health Budget

3.6 ***Public spending on health is very low in Tajikistan.*** In 2005, public spending on health from both Republican and local government sources totaled 1.1 percent of GDP and accounted for only 5 percent of total public spending. In per capita terms, Tajikistan spent only US$3.8 per population. Republican health spending accounted for about 24 percent of total health expenditure, as opposed to local health spending of 76 percent of total in 2005. Table [3.1] shows that the majority of the Republican health budget was allocated to hospital services (47 percent) and other health affairs services[20] (49 percent). The remaining included public health affairs and services (4 percent) and polyclinics services (1 percent of total Republican health budget).

3.7 ***As is the norm, the majority of the Republican budget is allocated towards recurrent expenditures.*** In 2005, the Republican health budget allocated 61 percent and 39 percent of the total respectively to recurrent and capital expenditures. Though the share devoted to capital expenditures may appear high, it is important to note that local health budgets do not contribute to investment. It is only central government funds in combination with donor resources that support any investment in the health sector (including the replacement of dysfunctional facilities). Wages (that is, labor compensation and contributions for employees) accounted for 21 percent of the total Republican health budget. However, goods and services (e.g., medicines, food, and fuel) consumed the 40 percent of the health budget. These numbers reflect the increase in the wage bill which previously accounted for only 11 percent of the total health expenditures budget. However, these increases in wages were not accompanied by spending increases in goods and services and in both nominal and real terms, this category saw absolute declines in financial allocations.

The Local Health Budget

3.8 ***The consolidated local health budget consists of the health budgets for Dushanbe city, and rayons of Republican subordination (RRS), Sogd and Khatlon oblasts, and GBAO.*** Oblasts are responsible for managing regional-level health facilities such as large hospitals and polyclinics and are accountable to the Ministry of Health on clinical and policy issues. As a share of total oblast budget, health spending accounted for only 5 percent of total oblast budget, which was low compared to spending on general public administration, defense, law enforcement, and social protection. As a comparison, on average, oblast health spending was about one-third of public spending on education in 2005.

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[19] The World Bank, "Tajikistan: Health Sector Policy Note", 1994.

[20] According to the IMF Government Financial Statistics (1986), these activities include administration, operation, or support of health affairs that cannot be assigned to other groups. Among the offices, bureaus, or program units that may serve the entire health establishment are those engaged in disseminating information, compiling statistics, preparing budgets, etc.

3.9 ***The consolidated health budget at the oblast level financed mostly hospital services.*** In 2005, spending on hospital services was four times of public spending on polyclinic services. It accounted for 71 percent of its total health budget, while polyclinic services accounted for only 16 percent of total health spending. Spending on other health care and health affair services comprised the residual. Financing of primary health care is also given short shrift at the oblast level because the continued used of input norms based budgeting combined with historical trends in allocating budgetary resource to the hospital sector with oversized infrastructure. Other reasons could be the lack of willingness of MOH or oblast officials to allocate funds to primary health care that is so under-funded or hospitals have greater influence in resource allocation as compared to primary care professionals.

3.10 ***Wage and salary accounted for about one-half of the local health budget.*** In 2005, an increase in wage and salary of health personnel has increased the share of wage in the local health budget from 40 percent in 2004 to 50 percent in 2005 (Table 3.1). As a result, the share of expenditure on the non-wage component fell significantly. For example, expenditure on goods and services, especially on medicine and food fell to 42 percent of total health budget in 2005, compared to 53 percent in 2004. Expenditure on communal services and repair and maintenance fell slightly to 6 and 11 percent respectively in 2005, from 8 and 12 percent of total health expenditure at the local level in 2004. Capital investment, however, increased in 2005 due to increased investment in the health budgets for Khatlon[21] and Sogd oblasts.

Table 3.1 – Tajikistan's Health Budget at the Republican and Local Levels (Percent of Total)

	2004		2005	
	Republican	**Local**	**Republican**	**Local**
Economic Classification				
Current Expenditure	61%	94%	61%	92%
Labor Compensation and Contributions	11%	40%	21%	50%
Wage and Salaries	9%	32%	17%	41%
Employer Contributions	2%	8%	4%	9%
Goods and Services	50%	53%	40%	42%
of which:Medicine	9%	10%	6%	7%
Food	6%	12%	6%	8%
Fuel	1%	2%	1%	2%
Communal Services	*4%*	8%	*3%*	6%
Repair and maintenance	*20%*	12%	*14%*	11%
Interest payments expenditure				
Subsidies and other current transfers	0%		0%	
Capital expenditure	39%	6%	39%	8%
Total	100%	100%	100%	100%
Functional Classification				
Hospital affairs and services	20%	80%	17%	83%
Polyclinics affairs and services	2%	18%	1%	19%
Public health affairs and services	23%	7%	13%	9%
Other healthcare affairs and services	74%	8%	74%	6%

Source: Ministry of Finance, Republic of Tajikistan

[21] Capital expenditure in GBAO was financed by Aga Khan Health Service that rehabilitated Khorog Oblast General Hospital and three rayon hospitals (Murghab, Ishkashim and Vanj).

3.11 ***Public health spending is inequitably allocated across oblasts.*** GBAO had the highest per capita health spending in 2005 (23 somoni), equivalent to 2.6 times of the average per capita health spending for all oblasts perhaps in part due to its mountainous geography. This is followed by Sogd (9 somoni) and Dushanbe and RRS (8.8 somoni). Khatlon oblast had the lowest per capita health spending (7.9 somoni). However, despite the relatively large per capita health expenditures allocated to GBAO, it accounts for less than 10 percent of the health budget due to its small population share (estimated at about 3 percent of Tajikistan's population). Thus, any rebalancing of per capita health expenditures at the oblast level would most likely benefit Khatlon.

3.12 ***The structure of health spending also differs across oblasts.*** The oblasts spent varying shares of their budgets on the wage bill, goods and services, and capital expenditures (Table 3.2). For example, the wage bill as a share of total health expenditures of the oblast varied from 30 percent in GBAO to 47 percent in Sogd. Goods and services varied from in 35 percent in Sogd to 56 percent in GBAO. Moreover, oblasts did devote resources to capital expenditures ranging from 6 percent in Dushanbe and RSS to 10 percent in Khatlon as a share of the oblast's health budget. It is not clear why there are such large variations in the share of expenditures devoted to each classification. It is possible they in some way reflect the differences in functional classification. For example, hospital affairs and services consume 50 percent of total health expenditures of Dushanbe/RSS health care expenditures as compared to 78 percent in GBAO.

Table 3.2: Oblast Health Budget in 2005

	Dushanbe and RRS	Khatlon	GBAO	Sugd	Total
Economic Classification					
Current Expenditure	48%	51%	37%	56%	50%
Labor Compensation and Contributions	39%	41%	30%	47%	41%
Wage and Salaries	9%	10%	7%	9%	9%
Employer Contributions					
Goods and Services	46%	40%	56%	35%	42%
of which:Medicine	10%	8%	6%	5%	7%
Food	7%	10%	9%	5%	8%
Fuel	2%	1%	4%	2%	2%
Communal Services	7%	3%	14%	7%	6%
Repair and maintenance	14%	8%	17%	10%	11%
Interest payments expenditure					
Subsidies and other current transfers	0%	0%	0%	0%	0%
Capital expenditure	6%	10%	7%	9%	8%
Functional Classification					
Hospital affairs and services	50%	71%	78%	72%	78%
Polyclinics affairs and services	28%	15%	10%	22%	11%
Public health affairs and services	5%	11%	8%	6%	6%
Other healthcare affairs and services	17%	3%	5%	1%	5%
Per capita Health Expenditure (Somoni)	8.81	7.87	23.35	9.22	9.05

Source: Ministry of Finance, Republic of Tajikistan

Rayons' Health Budgets

3.13 ***The rayon administration has greater financial independence due to its ability to collect and retain tax revenues.*** Local government through the local councils can establish local tax rates including sale taxes, property tax, vehicle, licenses and fees and all local tax revenues and fees can be kept by rayons. By contrast, the Republican taxes including VAT, excise taxes (excluding those collected by customs), enterprises profits tax, personal income tax, natural resource tax and motor vehicles tax are established by the Republican government. The Republican tax revenues are subject to sharing between the Republican and local government based on a formula determined annually by the budget law. The gap between estimated local

government revenue and expenditure is closed by subsidies transferred from Republican budget to the local budgets through the treasury system. At the rayon level, rayons collect both local taxes and fees and Republican taxes and retain the rayon's share of the Republican taxes. Only the remaining tax revenue that belongs to the Republican budget is sent to the central treasury.

3.14 ***This tax collection arrangement gives more flexibility to local governments in managing their revenues and expenditures.*** According to the law on local public administration, oblasts are primarily responsible for supervision of the rayons' performance in provisioning of basic services. The rayons, especially the rich ones, do not depend on budget transfer from oblasts because a major part of their budgetary revenue from local taxes and shared taxes is under their control. The tracking of health expenditure begins at the rayon level as the local budget initially flows from the rayon budget to health facilities – which are the front line service delivery units.

3.15 ***When compared across sector, the average size of the health budget ranked second in the rayon budget.*** On average, spending on education at the rayon level was the highest, followed by health and general public service. Health spending accounted for 13 percent of the average rayon budget, compared to 58 percent on education spending, equivalent to about one-fourth of the education budget. Sarband rayon in the Khatlon oblast had the highest health spending (18 percent), while Dangara rayon in the same oblast had the minimum health spending (7.7 percent).

3.16 ***By functional health services classification, the rayon health budget concentrated on hospital services.*** On average, about 73 percent of the rayon budget was spent on hospital services, while 19 percent was allocated to polyclinics. There was significant variation in the share of the total health budget devoted to hospitals ranging from 58 percent in Bokhtar (Khatlon) to 93 percent in Kajirokkum (Sogd). By type of expenditure, the rayon spent on wage and salary on an average 47 percent of total health spending. Goods and services accounted for 23 percent of total health spending at the rayon level, equivalent to one-half of the wage bills. This latter category includes spending on food (8.5 percent) and medicine (6.8 percent). Communal services and repair and maintenance accounted for 7.2 and 6.6 percent, respectively.

3.17 ***The city budgets (Dushanbe, Kurgan-Tube and Khorog) show that the health budget ranks third after the budget for education and housing sectors.*** Khorog city allocated the highest share of its budget to health care (16 percent), followed by Dushanbe (11 percent) and Kurgan Tube (6.5 percent). The share of hospital services in the city health budgets remained high accounting for about 68 percent on the average. However, Khorog city has the highest share of expenditure on hospital services (78 percent), followed by Kurgan-Tube (75 percent). Dushanbe spent only 50 percent of its budget on hospital services, the lowest among the three cities.

3.18 ***In per capita term, health spending by both rayons and cities varied significantly in 2005.*** The lowest health spending of US$1.1 per population was observed in Khatlon oblast (kolkhozabad and Khamadani) and in RRS (Rudaki). The highest health spending of US$4.4 per population was observed in Khatlon oblast (Sarband). The health spending per population was observed in the Khorog city (US$57), equivalent to 12 time of health spending in Dushanbe (US$4.8) and 22 time of health spending in Kurgan-Tube (US$2.6).

Table 3.3: Allocation of the Rayon Health Budget in 2005
By Function and Economic Classification

(Functional and economic classification are in Thousands of US Dollars)

Rayon Budget (Thousands of US Dollars)		Sectoral Allocation					Functional classification				Economic classification							
Oblast	Rayon	Total Expenditure	General Public Service	Education	Health	Housing and community amenity, ecology	Hospital affairs and services	Polydinecs affairs and sesrvices	Public Health affairs and services	Other healthcare affairs and services	Wage and salaries	Purchases of goods and services	Purchasees of Stationary, textbooks, and visual aids	Food	Fuel and Lubrication	Medicines, dressing materials	Communal services	Maintenance and Repair
Sogd	ajjni	1160	78	833	136	17	108	17	9	1	85	9	0	4	1	2	16	3
	dzh. rasulova	1434	98	1044	150	39	118	21	8	3	89	24	1	9	3	6	14	2
	istaravshan	2074	106	1210	307	199	213	69	13	12	164	48	2	17	8	15	35	15
	kajjrokkum	727	80	355	119	116	111	2	6	0	75	8	0	1	0	5	7	10
	kanibadam	1982	97	1299	322	71	247	49	21	5	170	49	3	19	3	10	32	19
	pendzhikent	3173	156	2089	341	394	233	92	11	5	209	29	1	11	1	3	37	9
	spitamen	1280	77	892	167	27	137	18	10	2	82	35	2	10	0	19	21	7
	shakhriston	452	34	287	66	25	43	16	6	0	49	4	0	1	0	1	5	1
Khatlon	sarband	809	117	311	145	102	98	26	10	12	68	36	1	12	1	12	5	14
	bokhtar	1796	108	1261	236	16	136	67	25	9	131	57	4	23	0	19	8	3
	khuroson	1018	89	643	158	23	97	43	16	2	83	36	2	12	1	11	5	4
	kabodijon	1312	143	865	173	20	107	59	6	2	67	52	4	22	1	16	5	0
	dzhilikul	995	90	590	174	32	130	27	12	5	79	51	3	27	1	15	6	10
	kolkhozabad	1654	106	1072	163	64	123	24	13	3	86	45	1	20	0	17	2	8
	javan	1905	117	1272	252	55	172	57	20	2	124	70	6	30	1	26	7	7
	dangara	3003	134	2048	232	308	183	28	17	4	125	51	4	18	6	16	8	14
	khamadani	1204	105	818	133	24	104	19	6	3	74	39	0	23	0	6	2	2
	khovaling	804	101	484	91	32	53	23	12	2	36	21	2	7	1	6	6	4
	muminabad	1018	108	680	113	27	77	23	9	3	59	26	4	9	1	7	5	5
	kurgan-tjube (obl	3663	986	230	982	13	726	31	104	121	172	288	21	100	19	70	21	150
RRS	varzob	1206	275	579	120	161	78	35	5	1	51	28	1	5	3	12	5	16
	tursunzade	3918	613	2087	585	372	412	160	13	0	234	179	6	61	22	30	37	48
	shakhrinav	1593	175	889	199	168	154	38	6	1	88	39	5	11	1	12	12	37
	rudaki	3665	532	2190	338	142	246	66	24	2	142	100	3	43	7	37	16	25
	todzhikobod	884	209	465	97	29	73	19	5	0	30	33	1	10	3	8	17	8
	rasht	1972	228	1169	212	165	172	24	17	0	75	67	1	24	2	14	10	32
GBAO	shugnan	1073	125	750	119	0	102	12	5	0	49	37	1	19	4	9	17	5
	roshtkala	813	109	541	68	14	53	11	3	0	24	18	1	8	2	4	15	1
	Mean	1664	186	963	221	95	161	39	15	7	97	53	3	20	3	15	13	16
	Maximum	3918	986	2190	982	394	726	160	104	121	234	288	21	100	22	70	37	150
	Minimum	452	34	230	66	0	43	2	3	0	24	4	0	1	0	1	2	0
City Budget (Thousands of US Dollars)		Sectoral Allocation					Functional classification				Economic classification							
Dushanbe	Dushanbe	28375	581	5949	3030	12444	1518	845	149	517	1174	685	27	124	53	363	184	507
Khatlon	Kurgan-Tube	2762	144	1185	179	971	133	28	13	4	79	48	11	11	3	12	6	9
GBAO	Khorog	10033	1430	4685	1634	852	1276	157	128	73	486	418	20	148	65	101	221	269
	Mean	13723	719	3940	1614	4756	976	344	97	198	580	383	19	94	40	158	137	262
	Maximum	28375	1430	5949	3030	12444	1518	845	149	517	1174	685	27	148	65	363	221	507
	Minimum	2762	144	1185	179	852	133	28	13	4	79	48	11	11	3	12	6	9

Source: The World Bank, PETS Health, 2006.

3.19 ***Allocation of the health budget was inequitable across rayons and it was not correlated to poverty***. The regression analysis that correlate per capita health spending to poverty incidence shows that only 3 percent of the level of health spending can be explained by poverty incidence. Further, the parameter is statistically insignificant. The health spending per population ranged from US$3.9 (in Sarban) to US$1.1 (Kabodijon), while the poverty rate[22] varied from 0.84 in Shugnan to 0.37 in Rudaki. Kobodijon and Rudaki rayons had the same level of health spending per population ($1.1) but poverty incidence in Kobodijon nearly doubled that of Rudaki (0.72 compared to 0.37). Kholkozabad had lower health spending per population ($1.3) despite its

[22] Due to a lack of poverty data for cities, only rayon was included in the figure below.

relatively high poverty incidence (0.81). Shugnan rayon that had the highest poverty incidence (0.84) only spent US$3.2 per population.

Jamoat Health Budget

3.20 ***Jamoats are merely administrative appendages of their respective rayon governments and have few of the attributes of a separate tier of government***[23]. Jamoati Shakhrak and Jamoati Dekhot represent self-governance bodies in urban and rural settlements respectively. They assist the government to implement the Constitution and the laws; facilitate citizens in the territories under their jurisdiction to assist the government to participate in public administration and address social, economic and other critical issues concerning them. As jamoats are more closely connected to the community base, they are responsible for implementing rayon policy and do not have their own source of financing. Although they collect tax to send to the rayon, their budgetary resources are specified in a separate line item of the respective rayon budgets.[24] The budgetary funds are transferred to jamoats' bank accounts and are managed solely by jamoats.

3.21 ***The majority of jamoats are responsible for financing polyclinic affairs and services.*** The survey shows that a large number of jamoats allocated their health budget exclusively to polyclinics affairs and clinics (table 3.4). Although 4 jamoats are no longer involved in distributing budget to health facilities, all of them managed health resources in 2005. About 53 facilities reported that they received a budget from jamoats including 32 medical houses/FAPs, 5 SUBs, and 16 SVAs. The average health budgets financed by the jamoats were 182 somoni per medical house/FAP facility; 1,665 somoni per rural hospital (SUB)[25]; and 574 somoni per rural physician ambulatory facility (SVA).

Table 3.4: Jamoat's Financing
By Types of Facility and Average Health Budget

	Number of Facilities	Average Budgetary Resource (Somoni)
Medical Houses/FAPs	32	182
SUB	5	1665
SVA	16	574
Total	53	440

Source: The World Bank

3.22 ***The jamoat spent more on education in nominal monetary terms and as a share in total expenditure, following by general public service and health care.*** [Table 3.5] shows that on average, a jamoat spent 16.1 percent of total budget on health care (US$6,503), compared to 64 percent on education (US$46,908) and 16.5 percent on general public services (US$5,116). The jamoat Khasanova in Shakrinav rayon (RRS) received the highest health budget of $27,246 and about 69 percent of its total budget was allocated to hospital services. By contrast, the jamoat Moskva in Khamadani rayon (Khatlon oblast) had the lowest health budget of US$31 and its entire budget was allocated to polyclinic services. About 44 out of 107 jamoats in the sample (41

[23] The World Bank, Public Expenditure and Institutional Review, 2005.

[24] Mamadhso Ilolov and Mirodasen Khudoiyev, "Local Government in Tajikistan", p. 625.

[25] SUBS have few beds and provide health care services to rural population.

percent) spent 100 percent of their health budget on polyclinic services. Only jamoat Saroba (Sogd oblast) spent 100 percent on hospital services. In Dushanbe, three jamoats financed both hospital and polyclinic services, while only jamoat Somonir financed only hospital services. The jamoat health budget was used for payment of wage and salary for health care workers (59 percent) and the remaining was allocated among goods and services, i.e., drugs, food, fuel, machines, dressing materials (14 percent), communal services (6 percent) and maintenance and repair (6 percent).

Health Facility Budget

3.23 ***The structure of health facilities in Tajikistan has not changed significantly after independent.*** Health services in urban areas are provided by central rayon hospitals (in-patient and outpatient services) and polyclinics (outpatient services) that are segmented into separate clinics for adults, children, and womens' reproductive health, and through specialized dispensaries, that address specific diseases such as tuberculosis, oncology, and endocrinology. In the rural areas, health services are delivered by Feldsher and Maternity Points (FAP), which were later converted into Medical Houses (formerly Medicinski Dom, now renamed Dom Zdravia) which are staffed by nurses, the Rural Physician Ambulatory Facilities (SVA), and rural hospitals (SUB) containing few beds averaging around beds. The PETS samples of health facilities include CRH, medical houses/FAPs, SVAs, and SUBs.

3.24 ***The Rayon Council does not approve the annual budget broken down by individual health facilities.*** They are not key budget organizations and their budgets were approved as expenditure line items included in the health budgets for the rayons and jamoats. With an exception of central rayon hospitals, other types of health facilities do not know their approved health budget.

3.25 ***The survey findings found that respondents at various levels (facility, rayon and oblast) disagreed on whether a facility had a separate health budget.*** There was no official budget records of any facility budgets (except central rayon hospitals) on how much was approved and executed. Only an aggregated expenditure based on the economic and functional classification were presented.

3.26 ***Health facilities received financing from various sources including from the oblast, rayon, central rayon hospital, and jamoat.*** The survey shows that in 2005, 41 percent of health facilities receiving financial resource in 2005 were financed by the jamoat, 22 percent were financed by the CRH, and 19 percent were financed by the rayon. However, the average amount of financial resource received from the jamoat was the smallest (only 440 somoni per facility), when comparing to the amount of financial resource provided by other sources.

Table 3.5: Jamoats' Health Budget
(in US $)

In US Dollars			Sectoral Budget Allocation					Funcational Allocation				Economic Allocation							
Oblast	Rayon	Jamoat	Total Expenditure	General Public Service	Education	Health	Housing and community amenity, ecology	Hospital affairs and services	Polyclinees affairs and serrvices	Public Health affairs and services	Other healthcare affairs and services	Wage and salaries	Purchases of goods and services	Purchases of Stationary, textbooks, and visual aids	Food	Fuel and Lubrication	Medicines, dressing materials	Communal services	Maintenance and Repair
Sogd	Ajjni	dzh. rarz	30,692	2,937	12,379	13,950	-	12,648	1,302	-	-	8,879	554	32	449	32	-	2,488	8
		p. saroba	47,804	4,654	21,905	21,245	-	21,245	-	-	-	8,633	1,562	26	676	67	695	8,796	-
		dzh. shamtu	16,785	2,370	7,811	6,216	-	4,646	1,570	-	-	3,799	420	-	216	-	193	1,121	-
		dzh. darbar	98,735	3,995	87,857	3,550	-	-	3,550	-	-	2,661	34	34	-	-	-	186	-
	Istaravshan	dzh. nofaro	17,045	4,171	11,117	1,757	-	-	1,757	-	-	756	-	-	-	-	-	12	796
		dzh. kalaiba	21,781	5,720	6,098	9,963	-	9,644	319	-	-	266	-	-	-	-	-	5	9,644
		dzh. leninob	15,947	5,803	8,856	1,289	-	-	1,289	-	-	1,115	-	-	-	-	-	-	-
	Kajjrokkum	p. navgarzan	11,235	1,578	8,604	829	-	-	829	-	-	626	-	-	-	-	-	-	-
		k. oltin topk	44,013	2,236	33,055	7,774	-	7,540	234	-	-	5,650	162	-	-	120	-	601	-
		p. adrasman	116,820	6,463	87,043	23,314	-	-	-	-	-	-	-	-	-	-	-	-	-
	Kanibadam	dzh. lokhuti	141,499	5,067	121,623	14,808	-	11,273	3,534	-	-	9,339	2,438	280	732	-	375	971	222
		dzh. sharipo	181,965	5,659	157,264	19,042	-	12,470	6,571	-	-	12,021	2,450	891	498	-	279	1,135	479
		dzh. artikov	134,615	6,140	117,587	10,588	-	-	10,588	-	-	7,556	500	186	-	-	64	559	450
	Pendzhiken	dzh. voru	20,597	2,460	11,141	6,996	-	3,322	3,674	-	-	5,910	-	-	-	-	-	-	-
		dzh. kushte	19,846	3,705	11,398	4,743	-	-	4,743	-	-	3,414	-	-	-	-	-	-	-
		dzh. rudaki	38,784	3,454	25,600	9,731	-	3,913	5,818	-	-	7,544	12	-	-	12	-	288	-
	Spitamen	dzh. kurkat	189,759	2,419	172,494	14,844	-	12,578	2,266	-	-	9,459	2,671	260	1,513	-	897	792	-
		dzh tagojak	101,281	2,607	93,074	4,600	-	-	4,600	-	-	2,571	827	196	-	-	353	64	-
		dzh. nov	114,338	3,830	107,446	3,062	-	-	3,062	-	-	1,705	783	244	-	-	375	147	-
		dzh. oktepa	119,090	2,357	106,582	3,615	-	-	3,615	-	-	2,724	173	10	-	-	163	45	-
		dzh kushteg	49,040	2,012	41,488	2,817	-	-	2,817	-	-	2,011	354	168	-	-	170	77	-
	Shakhriston	dzh. jangi ku	13,660	1,726	7,991	3,097	-	-	3,097	-	-	2,033	6	6	-	-	-	-	846
		dzh. shakhri	16,188	4,401	8,592	2,877	-	-	2,877	-	-	2,274	-	-	-	-	-	64	-
Khatlon	Sarband	dzh. gulisto	136,968	7,674	105,213	23,507	-	16,033	7,474	-	-	13,290	5,772	224	1,282	141	1,603	401	721
		dzh. vakhda	39,143	8,204	28,599	2,340	-	-	2,340	-	-	1,282	641	-	-	-	321	96	-
	Kabodijon	dzh. navob	19,000	3,763	9,219	6,018	-	3,761	2,257	-	-	1,763	3,312	290	2,089	-	932	-	-
	Dzhilikul	dzh. g. gulm	22,276	8,942	10,472	2,641	-	1,236	1,405	-	-	1,878	163	99	-	-	64	128	-
		dzh. garaut	44,842	9,104	30,896	2,228	-	-	2,228	-	-	1,255	247	19	-	-	96	-	-
		dzh. dekhk	22,304	6,699	8,934	1,407	-	-	1,407	-	-	1,237	87	48	-	-	38	-	-
	Kolkhozaba	dzh. frunze	38,586	4,904	24,258	9,424	-	-	9,424	-	-	4,565	2,115	321	-	-	1,282	321	1,282
		dzh. orzu	34,344	5,013	24,129	5,202	-	-	5,202	-	-	2,238	2,019	577	-	-	801	385	-
		dzh. kalinin	16,496	2,566	13,037	870	-	-	870	-	-	418	354	-	-	-	321	-	-
	Khamadani	dzh. kakhra	98,355	3,512	91,372	3,471	-	-	3,471	-	-	2,604	-	-	-	-	-	-	-
		p. moskva	125,804	2,721	121,024	31	-	-	31	-	-	25	-	-	-	-	-	-	-
		dzh. dashti	105,263	2,594	100,694	1,976	-	-	1,976	-	-	1,482	-	-	-	-	-	-	-
		dzh. pancho	66,568	4,187	60,959	735	-	-	735	-	-	646	-	-	-	-	-	-	-
		dzh mekhna	113,979	3,877	107,486	2,617	-	-	2,617	-	-	2,190	-	-	-	-	-	-	-
	Khovaling	dzh. sariosi	9,384	3,932	4,423	1,029	-	-	1,029	-	-	669	128	64	-	-	-	-	64
		dzh. lokhut	17,698	4,388	10,677	2,068	-	-	2,068	-	-	1,523	128	128	-	-	-	-	128
		dzh. chonb	16,742	5,337	9,609	1,796	-	-	1,796	-	-	1,188	160	96	-	-	-	64	96
	Muminabad	dzh. kulcha	106,277	4,606	90,756	7,607	-	-	7,607	-	-	4,234	1,013	432	-	-	385	192	937
		dzh. dekhib	114,233	4,048	106,085	4,100	-	-	4,100	-	-	2,708	499	64	-	-	337	59	-
		dzh. balkho	109,659	5,562	100,804	2,997	-	-	2,997	-	-	2,178	503	96	-	32	295	-	-
		dzh. boggai	94,833	4,083	85,681	5,070	-	-	5,070	-	-	3,284	777	229	-	-	403	-	64
RRS	Varzob	dzh. ziddi	17,345	6,261	8,927	608	-	-	608	-	-	349	205	35	-	-	121	-	-
		dzh. luchob	44,412	10,708	30,039	3,664	-	-	3,664	-	-	1,651	1,050	87	-	168	473	42	508
		dzh. dekhm	28,658	6,885	19,576	2,198	-	-	2,198	-	-	1,244	578	36	-	97	224	55	-
	Shakhrinav	dzh. khasan	82,923	8,729	46,948	27,246	-	18,769	8,478	-	-	15,608	1,685	498	609	-	514	864	4,569
		dzh. sabo	42,388	7,172	28,404	6,876	-	-	6,876	-	-	4,310	294	-	-	-	294	252	838
		dzh. oktjab	31,706	6,092	20,631	4,826	-	3,986	840	-	-	2,823	402	193	64	-	-	272	623
		dzh. bogist	29,426	5,994	16,418	7,014	-	-	7,014	-	-	4,238	895	272	362	-	116	186	644
	Rudaki	dzh. okkurg	26,186	6,545	12,445	7,196	-	-	7,196	-	-	5,430	290	34	-	-	205	71	38
		dzh. 40 let	23,203	5,788	14,542	2,873	-	-	2,873	-	-	1,849	246	67	-	-	179	125	87
		dzh. rokhat	25,320	5,770	14,974	4,576	-	-	4,576	-	-	3,088	237	21	-	-	184	130	103
	Todzhikobo	dzh. kalai k	12,064	4,686	520	4,726	-	-	4,726	-	-	1,587	1,479	61	-	-	654	951	221
		dzh. shirino	4,280	2,874	359	875	-	-	875	-	-	215	293	10	-	-	114	256	38
		dzh. shokh	8,959	6,244	359	1,886	-	-	1,886	-	-	503	673	16	-	-	385	500	64
		dzh. langar	24,728	6,574	506	15,175	-	10,358	4,817	-	-	4,673	4,785	135	1,449	324	1,314	3,204	1,032
	Rasht	dzh. kalaist	29,585	6,865	9,505	13,314	-	10,440	2,874	-	-	4,379	2,691	19	1,007	32	601	504	4,496
		dzh. kalana	19,252	3,944	7,372	7,188	-	5,096	2,093	-	-	3,465	2,310	26	881	-	520	492	-
		dzh. dzhafr	18,770	9,253	6,434	2,352	-	-	2,352	-	-	1,577	227	8	-	-	111	154	-
GBAO	Shugnan	dzh. vir	92,428	4,698	72,763	10,925	-	9,604	1,321	-	-	4,264	3,121	64	981	478	933	1,079	1,410
		dzh. suchar	124,669	7,772	105,457	9,025	-	6,569	2,456	-	-	4,209	2,261	44	1,072	284	729	1,346	160
		dzh. darmo	76,597	4,586	63,382	6,328	-	5,588	740	-	-	2,757	1,857	61	641	241	727	682	64
		dzh. vankal	105,599	5,534	88,660	9,863	-	7,714	2,149	-	-	4,948	3,579	128	1,913	128	1,154	529	-
	Roshtkala	dzh. m. mir	31,289	10,348	15,290	2,729	-	-	2,729	-	-	1,687	437	208	-	-	99	210	-
		dzh. tavder	147,676	7,820	128,694	11,162	-	6,803	4,359	-	-	4,763	3,157	176	1,474	481	801	1,827	-
		dzh. barvoz	75,147	5,244	66,226	1,731	-	-	1,731	-	-	1,015	95	60	-	-	35	212	-
		Mean	59,366	5,116	46,908	6,503	-	3,018	3,142	-	-	3,466	951	109	267	39	312	492	457
		Maximum	189,759	10,708	172,494	27,246	-	21,245	10,588	-	-	15,608	5,772	891	2,089	481	1,603	8,796	9,644
		Minimum	4,280	1,578	359	31	-	-	-	-	-	25	-	-	-	-	-	-	-
Dushanb	Dushanbe	shokhmansu	2,747,794	48,955	815,254	579,510	668,889	436,498	128,051	14,961	-	274,472	107,902	6,847	22,064	2,616	61,562	48,864	77,819
	Dushanbe	firdavsi r-n	3,611,055	70,912	1,269,449	298,308	910,977	31,538	261,397	5,373	-	163,311	36,903	3,198	3,672	-	30,033	18,436	26,922
	Dushanbe	i. somoni r-n	2,154,808	37,500	790,064	213,595	967,308	213,595	-	-	-	108,170	37,554	835	18,777	181	17,761	18,418	6,987
	Dushanbe	ibni sino r-n	5,141,222	90,599	2,224,385	969,199	1,544,668	619,742	272,440	19,683	57,334	342,291	169,531	7,329	58,614	1,177	80,216	49,835	309,927
		Mean	3,413,720	61,991	1,274,788	515,153	1,022,961	325,343	165,472	10,004	14,333	222,061	87,972	4,552	25,782	994	47,393	33,888	105,414
		Maximum	5,141,222	90,599	2,224,385	969,199	1,544,668	619,742	272,440	19,683	57,334	342,291	169,531	7,329	58,614	2,616	80,216	49,835	309,927
		Minimum	2,154,808	37,500	790,064	213,595	668,889	31,538	-	-	-	108,170	36,903	835	3,672	-	17,761	18,418	6,987

Source: The World Bank.

3.27 ***Rayon was the main financier of the CRHs (18 out of 21 hospitals).*** The CRH reported that the average financial resource received from rayons was 46,931 somoni per facility. The majority of other hospitals (9 facilities) received financial resource from oblasts and only 3 received financial resource from other sources. 32 out of 47 medical houses received financial resources from jamoats. 4 out of 8 polyclinics (50 percent) received financial resource from rayons, while 2 polyclinics received financial resource from oblasts. An equally number of SUBs (5) received financial resource from CRHs and jamoats. 16 out of 27 SVAs received financial resource from jamoats and 10 SVAs received financial resource from CRHs (Table 3.6).

Table 3.6
Providers of Financial Resource to Health Facilities in 2005

		Providers of Financial Resource						Total
Type of facility		CRH	Jamoat	Rayon	Oblast	MoH/MoF	Other	
CRH	Obs	0	0	18	1	0	2	21
	Mean			46,931	13,000		64,511	
Medical Centre	Obs	13	32	0	0	0	2	47
	Mean	58	182				615	
Other hospitals	Obs	0	0	1	9	0	3	13
	Mean			68,364	7,798		142,027	
Other	Obs	0	0	1	0	0	0	1
	Mean			5,900				
Polyclinics	Obs	1	0	4	2	0	1	8
	Mean	8,300		1,981	5,526		3,000	
SUB	Obs	5	5	1	1	0	1	13
	Mean	884	1,665	50	200		300	
SVA	Obs	10	16	0	0	0	1	27
	Mean	194	574				120	
TOTAL	Obs	29	53	25	13	0	10	130
	Mean	532	440	37,080	7,264		55,975	

Source: The World Bank

3.28 ***The CRH budget shows that funds were spent on wage, communal services, and food.*** On average, about 54 percent of total spending was on wage and salary of health workers. Spending on other inputs include 10 percent for food, 9 percent for communal services (gas, electricity, heating, etc.), 8 percent for repair and maintenance, and 7 percent for medicine and dressing, materials, etc (Table 3.7). The CRH in Istaravshan (Sogd oblast) had the highest health spending due to the wage bill (66 percent of total expenditure) and communal services (13 percent of total health spending). The CRH in Khuroson (Khatlon oblast) had the lowest health spending due to its lowest wage bill (41 percent of total spending).

Table 3.7: CRH Health Budget by Economic Classification

(executed, in thousands somonis)

Oblast	Rayon	Total health budget for Central Rayon Hospital	Labor compensation and employers' contribution	Labor compensation	Wage and salaries	Purchases of goods and services	Purchasees of Stationary, textbooks, and visual aids	Food	Fuel and Lubrication	Medicines, dressing materials	Communal services	Maintenance and Repair	Communication services	Acquisition of Fixed Capital Assets	Centralized capital investment
Sogd	Ajjni	120.7	91.8	72.5	72.5	15.0	0.4	7.6	1.4	3.0	5.1	8.0	0.9	0.0	0.0
	Dzh. Rasulova	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Istaravshan	838.4	557.0	451.6	451.6	144.2	9.2	56.1	25.0	39.4	107.8	9.0	2.4	15.0	0.0
	Kajjrokkum	185.3	126.3	98.7	98.7	21.1	0.3	2.2	0.8	13.8	11.0	26.2	0.7	0.0	0.0
	Kanibadam	426.1	227.7	179.7	179.7	82.6	1.5	35.0	9.2	17.3	55.2	33.6	5.6	18.0	0.0
	Pendzhikent	395.9	197.9	137.6	137.6	62.5	2.0	26.5	2.5	8.6	85.9	34.1	15.5	0.0	0.0
	Spitamen	375.9	203.5	170.9	170.9	84.7	3.1	22.9	0.4	48.0	64.1	21.9	1.8	0.0	0.0
	SHakhriston	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Khatlon	Sarband	299.3	161.9	129.5	129.5	71.2	1.6	32.8	1.0	22.3	14.4	40.2	0.3	11.3	0.0
	Bokhtar	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	KHuroson	113.7	66.0	52.8	52.8	34.3	0.7	14.5	0.8	9.3	4.1	6.3	0.1	2.4	0.0
	Kabodijon	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Dzhilikul	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Kolkhozabad	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	JAvan	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Dangara	454.6	280.5	209.4	209.4	126.1	10.9	46.0	16.9	39.3	13.3	21.7	6.1	6.5	0.0
	KHamadani	280.3	191.1	155.8	155.8	81.4	0.0	61.1	0.7	16.0	4.6	3.1	0.0	0.0	0.0
	KHovaling	136.3	47.1	37.8	37.8	33.2	2.1	15.8	1.4	9.5	8.0	7.6	1.3	36.5	0.0
	Muminabad	223.6	138.2	110.9	110.9	60.3	5.3	26.7	4.2	15.0	13.8	5.8	1.1	2.6	0.0
RRP	Varzob	277.1	144.2	115.3	115.3	64.3	2.4	14.4	6.6	28.1	13.1	33.7	0.3	21.4	0.0
	Tursunzade	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	SHakhrinav	375.0	164.7	131.8	131.8	92.3	8.4	31.8	4.4	26.1	29.2	84.6	4.2	0.0	0.0
	Rudaki	436.1	156.8	130.0	130.0	210.5	2.9	91.0	14.1	82.1	14.9	47.6	6.3	0.0	0.0
	Todzhikobod	115.5	46.6	37.9	37.9	46.1	0.9	17.5	8.3	9.3	10.6	11.2	1.0	0.0	0.0
	Rasht	290.0	108.2	86.6	86.6	91.6	0.3	35.7	2.1	13.6	9.2	71.5	0.4	9.0	0.0
GBAO	SHugnan	145.6	64.7	52.4	52.4	45.4	0.7	32.0	4.5	6.7	31.7	1.5	0.1	0.0	0.0
	Roshtkala	144.8	47.5	38.0	38.0	47.7	1.0	16.9	4.6	7.9	41.9	0.0	1.7	0.0	0.0
	Average	296.5	159.0	126.3	126.3	74.4	2.8	30.9	5.7	21.9	28.3	24.6	2.6	6.5	0.0
	Maximum	838.4	557.0	451.6	451.6	210.5	10.9	91.0	25.0	82.1	107.8	84.6	15.5	36.5	0.0
	Mean	113.7	46.6	37.8	37.8	15.0	0.0	2.2	0.4	3.0	4.1	0.0	0.0	0.0	0.0

Source: The World Bank, PETS 2006.

3.29 ***Besides budgetary resources, the health sector received in-kinds contributions directly from foreign and domestic donors including the local business enterprises.*** The survey found that nearly all the respondents at CRH (94 percent) reported that they received in-kind support from such sources in 2005, while only 14 percent of rayon respondents and 11 percent of jamoat respondents reported so. In most of cases in-kind resources provided by sources other than budget were directed towards CRHs and the CRH chief doctors were the ones who had the most to say in allocating these resources.

3.30 ***Based on the response, the central rayon hospital received in-kind inputs more than other types of facilities and they are mostly food (Table 3.10).*** Health facilities could receive in-kind resources (medicine, food, fuels, and others) for any sources including oblast, rayon, CRH, and jamoats. The rayon was the key provider of in-kind inputs to CRHs, other hospitals, polyclinics, and SUBs. The CRH as the health department provided in-kind resources to other hospitals, medical houses, polyclinics, SUBs, and SVAs. Jamoats provided in-kind resource to medical houses, SUBs, and SVA. Food had the highest value among other in-kind inputs that were provided to health facilities, especially to the CRHs. However, these findings need to be interpreted with cautions because the survey data was not taken directly from financial records provided by health facilities.

B. PREPARATION OF THE HEALTH BUDGET

3.31 ***The Ministry of Finance (MOF) is responsible for the overall budgeting process.*** In the month of May of each year, MOF issues budget circular and budgetary guidelines to line ministries to initiate the budget formulation process. At the Republican level, Ministry of Health prepares the budget requests for itself and Republican health centers.

3.32 ***The estimated expenditure on health inputs is mixed between norm based and historical based estimation.*** Each of the rayon's budgets for the current (ongoing) year is modified to account for expected changes in major cost items. These include inflation and changes in the budget parameters controlled by the central government, including wage rates for various civil service grades, allowable staffing levels across grades and tariffs for certain public utilities and communal services. The line-item expenditures (economic classification) are estimated based on historical expenditure. For example, wage and salaries is calculated from the number of doctors or nurses per population, approved workloads per staff, and salaries. Other expenses are calculated based on norms such as the number of hospital beds. The budget estimates are based on norms for the level of inputs (e.g. number of health facilities, hospital beds, staff, etc.) and indicative prices or increases set by the MOF for salaries, energy and utility costs, protected items, and inflation. For example, the norms were 0.35-0.45 somoni per patient for drugs and 0.45-0.55 somoni per patient per day for food. The use of input norms to formulate the health budget perpetuates the incentives for overcapacity and emphasizes structure over quality of care.

3.33 ***The health facility budget is usually prepared at the rayon level though there appears to be some diversity of opinion.*** The preparation of the health budget was based on budgetary guidelines issued by the Oblast Finance Department. The budgets for health facilities were prepared by rayon, central rayon hospitals, jamoats, and health facility itself. The survey shows that about the more respondents at the rayon level believed that the budget for facility was prepared by the rayon; the majority of respondents at the CRH level reported that the budget was prepared by the CRHs; and equal number of respondents at the jamoat level reported that the budget was prepared by the rayon and jamoat respectively. The fact finding interviews indicated that facilities were involved to some extent in preparing their own budgets and submitted the requests to higher levels of local government administration. The survey found that 38 percent of health facilities prepared and submit budget requests to the jamoat; 27 percent to the rayon, 25 percent to the CRH, and 10 percent to the oblast.

3.34 ***The rayon played an important role in approving allocation of the budget***. The oblast negotiated the local budget directly with the MOF without involvement of the Ministry of Health. The survey found that after the budget was approved, the final decision in allocating it for each line item was taken most of the time by the rayon as reported by 81 percent of respondents at the rayon level, 63 percent at the CRH level, and 58 percent at the jamoat level. The survey shows that roughly one out of four respondents at CRHs and jamoats reported that the final decision was taken at their levels (respectively 26 percent and 29 percent).

3.35 ***Once approved, most rayons published the budget in local newspapers.*** The survey found that 94 percent of respondents at the rayon level published the approved budget, while 21 percent of respondents at CRH did so. The approved budget is a basis for the preparation of a quarterly "smeta"[26] broken down by economic classification and by key budget organizations.

[26] This is quarterly cash allocation limits that Treasury office uses to verify that the amount of payment requests by budget institutions does not exceed budget appropriation.

The smeta serves as a spending plan for the release of funds by the Treasury. All requests for payment orders must not exceed the allocated ceilings established in the smeta.

C. BUDGET EXECUTION, FINANCIAL REPORTING, AND AUDITING

3.36 ***Execution of the rayon health budget was mostly carried out through the CRH (rayon health department) and the jamoat (the first tier of local government).*** The CRH, also acting as the rayon health department, is responsible for supervision of clinical procedures and human resource management of all health facilities in the rayon. In addition, CRH is responsible for disbursement of funds to some health facilities for wage and salary as well as in-kind inputs. The budget of the CRH financed health facilities including the CRH itself as a health facility, other specialized hospitals, polyclinics, rural medical houses, SUBs and SVA. The jamoats also disbursed funds transferred from the rayons based on line items to health facilities operating within the jamoat territory, mostly in the rural area. Health facilities received financing from jamoats are mostly rural medical houses/FAPs, SUBs and SVAs.

3.37 ***The rayon budget was amended upward during the year due to an increase in local revenue.*** In 2005, total revenue at the rayon level increased on average by 13 percent due mainly to higher tax collection than the forecasts (Table 3.8). The Khatlon oblast had the highest increase in revised revenue, beginning from 73 percent (Dangara rayon), 37 percent (Khovaling rayon), and 28 percent (Sarban rayon). In RRS, the highest increase in revised revenue was observed in Rasht (25 percent). The rayons in GBAO (Shunan and Rostkala) did not have any increase in revised revenue. In Sogd oblast, the revised revenue increased while the revised tax collection was revised downward.

3.38 ***In-year additional resource was distributed to all sectors but the health sector received the least additional allocation.*** Most of the rayons received increases in total expenditures during the revision, with an exception of Istaravshan rayon whose revised budgetary expenditure fell by 5 percent (Table 3.9). These rayons allocated most of the additional resource to housing, community amenity, and the ecology sector; as a result, the sector experienced an average increase by 30 percent. The budget for general public service experienced an average increase by 24 percent, followed by the education sector (14 percent) and the health sector (3 percent). Three rayons in Khatlon oblast received increases in additional allocation for health during the in-year budget revision in the order of 22 percent (Kabodijon), 13 percent (Sarband) and 12.5 percent (Khovaling). In the Sogd oblast, health expenditure for Kanibadam rayon fell by 7 percent after the in-year revision, while Ajjni's health expenditure increased by 1.6 percent and the remaining rayons in Sogd oblast did not get any increases in the health budget.

Table 3.8
Deviation of Total Revenue of Rayons (Percent)

Oblast	Rayon	Total Revenue and Grant		Tax revenue		Transfer from Republican Budget			
						Mutual payments/transactions		Subvention	
		Rev.	Exec.	Rev.	Exec.	Rev.	Exec.	Rev.	Exec.
Sodg	Ajjni	10.9	1.0	-5.7	0.6	.	0.0	0.0	0.0
	Dzh. Rasulova	13.0	3.3	0.0	3.6	.	0.0	.	.
	Istaravshan	21.8	0.6	-2.5	-0.7	.	0.0	.	.
	Kajjrokkum	3.7	18.4	1.3	15.7	.	0.0	.	.
	Kanibadam	5.1	5.6	0.0	5.6	.	0.0	.	.
	Pendzhikent	7.1	-0.6	-20.4	-2.3	.	0.0	.	.
	Spitamen	3.1	0.8	-2.1	1.5	.	0.0	.	.
	SHakhriston	17.5	-23.2	-4.3	-43.9	.	0.0	0.0	0.0
Kahtlon	Sarband	28.5	7.6	1.7	8.5	.	0.0	.	.
	Bokhtar	7.5	0.4	0.0	0.5	.	0.0	0.0	0.0
	KHuroson	1.7	40.5	0.0	7.1	.	-7.3	0.0	0.0
	Kabodijon	4.6	3.1	0.0	2.4	.	0.0	.	.
	Dzhilikul	8.4	1.4	0.0	1.6	.	0.0	0.0	0.0
	Kolkhozabad	8.8	0.2	2.3	0.1	.	-0.8	0.0	0.0
	JAvan	8.2	0.2	0.0	0.7	.	7.6	0.0	0.0
	Dangara	72.7	0.6	20.1	1.2	.	0.0	0.0	0.0
	KHamadani	9.9	-8.0	0.5	-17.4	.	-100.0	0.0	38.9
	KHovaling	36.6	4.2	11.0	5.5	.	0.0	0.0	0.0
	Muminabad	12.4	1.5	1.5	1.8	.	0.0	0.0	0.0
RRS	Varzob	15.3	1.0	42.8	3.9	.	0.0	0.0	0.0
	Tursunzade	1.4	21.3	-3.1	21.6	.	0.0	.	.
	SHakhrinav	3.5	2.1	-0.6	7.5	.	0.0	0.0	0.0
	Rudaki	6.0	5.5	-0.7	5.4	.	0.0	0.0	0.0
	Todzhikobod	18.1	3.5	0.0	31.2	.	0.0	0.0	0.0
	Rasht	24.9	4.9	23.9	26.6	.	0.0	0.0	0.0
GBAO	SHugnan	0.0	0.1	0.0	0.6	.	.	0.0	0.0
	Roshtkala	0.0	-8.7	0.0	22.1	.	.	0.0	0.0
	Mean	13	3	2	4	.	.	0	2
	Maximum	73	40	43	31	0	8	0	39
	Minimum	0	-23	-20	-44	0	-100	0	0

Source: The World Bank

Rev: deviation between revised and approved budget,
Exec: deviation between executed and revised budget.

Table 3.9
Deviation of Rayons' Expenditure by Sector - Approved, Executed and Revised
(Percentage Change)

Oblast	Rayon	Total Expenditure		General Public Service		Education		Health		Housing and community amenity, ecology	
		Rev.	Exec.	Rev.	Exec.	Rev.	Exec.	Rev.	Exec.	Rev.	Exec.
Sodg	Ajjni	10.6	1.1	12.8	-14.5	8.7	5.0	1.6	-3.3	0.0	-15.3
	Dzh. Rasulova	13.0	3.3	6.3	24.8	15.6	1.1	0.0	0.1	0.0	-0.5
	Istaravshan	-4.7	28.6	5.4	-2.2	0.0	17.2	0.0	25.4	5.4	6.5
	Kajjrokkum	3.7	17.8	0.0	43.2	3.0	8.1	0.0	7.1	8.6	43.6
	Kanibadam	6.8	0.5	18.6	-2.2	7.3	0.6	-7.3	2.1	-0.5	2.2
	Pendzhikent	10.2	-3.4	6.1	20.7	3.2	-3.0	0.0	-7.3	133.1	-7.1
	Spitamen	3.1	0.8	5.7	9.9	1.9	1.2	0.0	0.0	0.0	-15.6
	SHakhriston	11.1	-18.8	0.0	-35.3	15.9	-13.7	0.0	-18.2	0.0	-51.4
Kahtlon	Sarband	28.5	-1.6	104.2	-2.5	11.8	-2.8	13.2	0.0	23.4	0.0
	Bokhtar	7.6	-4.4	31.4	-6.0	5.5	-0.4	0.0	-15.4	0.0	-38.3
	KHuroson	7.5	-1.7	31.6	-2.9	3.5	-1.3	3.4	-4.8	7.5	-0.1
	Kabodijon	8.6	-5.6	38.6	28.2	3.5	-9.2	21.6	0.0	6.2	2.3
	Dzhilikul	14.1	-3.7	22.0	-10.1	13.2	-0.7	9.3	-10.2	0.0	-6.6
	Kolkhozabad	8.8	0.5	9.9	0.5	8.7	-3.8	2.5	-10.8	19.2	6.4
	JAvan	11.9	-6.0	26.2	-2.0	9.5	-7.1	3.2	-4.0	8.5	-9.5
	Dangara	73.6	-1.9	38.0	-1.1	74.2	-0.9	4.0	-10.1	384.7	0.0
	KHamadani	9.9	-10.5	24.7	-5.2	9.7	-7.3	0.0	-31.0	.	.
	KHovaling	43.5	-6.4	41.9	-10.6	52.9	-7.4	12.5	-2.7	45.6	-0.7
	Muminabad	16.4	0.7	31.7	8.4	16.7	1.8	-1.0	-9.9	34.8	0.6
RRS	Varzob	15.3	-1.3	28.3	-1.1	14.3	-1.1	9.0	-0.2	0.1	-0.2
	Tursunzade	1.4	21.3	9.6	79.0	0.2	10.8	0.0	10.7	5.4	49.0
	SHakhrinav	3.5	-2.6	7.4	7.5	1.0	-4.5	0.0	-1.9	9.1	-0.1
	Rudaki	6.0	5.5	16.2	104.1	6.6	-2.7	0.4	-3.0	0.0	5.2
	Todzhikobod	18.1	3.5	0.0	5.6	38.2	0.2	0.0	-0.3	0.0	-1.0
	Rasht	24.9	-0.4	45.7	5.7	24.9	-1.2	4.1	0.0	70.2	0.0
GBAO	SHugnan	10.3	-1.9	34.1	2.3	10.3	-1.5	1.0	-3.4	.	.
	Roshtkala	12.0	-7.0	48.2	-11.4	8.3	-2.0	0.9	-25.8	0.0	-15.0
	Mean	14	0	24	9	14	-1	3	-4	30	-2
	Maximum	74	29	104	104	74	17	22	25	385	49
	Minimum	-5	-19	0	-35	0	-14	-7	-31	0	-51

Source: The World Bank

Oblast	Rayon	Total Expenditure		General Public Service		Education		Health		Housing and community amenity, ecology	
		Rev.	Exec.	Rev.	Exec.	Rev.	Exec.	Rev.	Exec.	Rev.	Exec.
Dushanbe	Dushanbe	23.2	-3.2	39.4	-5.3	4.3	-2.1	11.5	0.6	50.8	2.9
Khatlon	Kurgan-Tjube	113.3	-1.8	139.6	-4.0	79.2	-1.6	16.5	-1.4	250.8	-9.9
GBAO	KHorog	15.3	-2.2	26.3	-2.1	10.0	-1.8	18.9	-4.0	12.5	-2.4
	Mean	50.6	-2.4	68.5	-3.8	31.2	-1.8	15.6	-1.6	104.7	-3.1

Source: The World Bank

3.39 ***Within the health budget, additional resource was diverted to other healthcare affairs and hospital services.*** On an average, the budget revision increased expenditure for hospital services by 6 percent and for polyclinic services by 2.6 percent (Table 3.9). In Khatlon oblast, hospital services in Kabodijan rayon received a maximum increase in the revised budget by 46 percent. Unfortunately, this came a the cost of a reduction in the budget of polyclinic services in Khatlon as 4 rayons experienced a reduction in the revised health budget, 4 rayons maintained their original budgets, and 3 rayons gained additional health fund from in-year budget revision. With regard to the budget for polyclinic services, Varzob (RRS) received an increase in resource by 13 percent during the budget revision while the rest of the rayons did not receive additional funds. In the Sogd oblast, polyclinics services, public health affairs, and other health care affairs and services experienced reductions in their budgets during the budget revision. The in-year budget revisions for the three cities; however, increased the funding for hospital service on the average of 24 percent, compared to 0.7, 4.8 and 1.4 percent for polyclinic, public health affairs, and other health care affairs services.

Table 3.10
Rayon Health Budgets by Functional Classification - Approved, Executed, and Revised
(Percent changes)

Oblast	Rayon	Hospital affairs and services		Polyclinics affairs and services		Public Health affairs and services		Other healthcare affairs and services	
		Rev.	Exec.	Rev.	Exec.	Rev.	Exec.	Rev.	Exec.
Sodg	Ajjni	2.1	1.1	0.0	-17.0	0.0	-20.2	0.0	-4.1
	Dzh. Rasulova	0.0	3.4	0.0	-7.4	0.0	-9.2	0.0	-29.2
	Istaravshan	0.0	54.1	0.0	-11.3	0.0	18.3	0.0	-34.0
	Kajjrokkum	1.2	7.7	-14.5	0.1	-10.3	0.0	-25.6	0.0
	Kanibadam	-8.1	3.3	0.0	1.3	-14.5	-4.8	0.0	-12.9
	Pendzhikent	0.0	-17.2	0.0	40.6	0.0	-31.1	0.0	-2.7
	Spitamen	1.9	1.2	-3.9	3.4	-13.0	-18.6	0.0	2.9
	SHakhriston	0.0	-10.5	0.0	-23.8	0.0	-39.2	0.0	-62.6
Kahtlon	Sarband	9.3	0.0	-2.3	0.0	9.4	0.0	226.5	0.0
	Bokhtar	0.0	-5.7	0.0	-20.9	0.0	-36.5	0.0	-22.7
	KHuroson	5.0	-1.2	-0.2	-6.1	4.7	-15.3	0.0	-36.4
	Kabodijon	46.1	17.5	1.4	-17.2	-3.2	-29.4	0.0	0.0
	Dzhilikul	12.7	-9.5	1.1	-9.5	0.0	-16.6	0.0	-14.2
	Kolkhozabad	3.7	-3.1	0.0	-37.1	0.0	-5.9	0.0	-19.0
	JAvan	4.0	-3.3	-0.3	-4.7	2.5	-3.8	0.0	-10.7
	Dangara	5.1	-10.8	-3.4	-11.2	3.8	-0.8	8.3	-0.5
	KHamadani	0.0	-35.6	0.0	10.5	0.0	-36.8	0.0	-6.2
	KHovaling	22.5	-1.1	0.0	-4.4	3.7	-6.5	0.0	0.0
	Muminabad	-2.2	-8.4	2.3	-17.8	0.0	-1.0	0.0	-2.7
RRS	Varzob	6.1	1.7	13.1	-2.2	29.2	-5.1	0.0	-36.7
	Tursunzade	0.0	12.8	0.0	6.8	0.0	-3.5	.	.
	SHakhrinav	0.0	-0.9	0.0	-5.4	0.0	-4.6	0.0	-0.2
	Rudaki	1.1	-0.5	0.0	-12.1	0.0	2.2	-30.5	-24.3
	Todzhikobod	0.0	-0.4	0.0	0.0	0.0	0.1	.	.
	Rasht	5.1	-0.1	0.0	0.4	0.0	0.1	.	.
GBAO	SHugnan	1.3	7.8	0.0	-27.0	0.0	-59.9	.	.
	Roshtkala	1.2	-18.3	0.0	-38.3	0.0	-58.6	.	.
	Mean	4.4	-0.6	-0.3	-7.8	0.5	-14.3	8.1	-14.4
	Maximum	46.1	54.1	13.1	40.6	29.2	18.3	226.5	2.9
	Minimum	-8.1	-35.6	-14.5	-38.3	-14.5	-59.9	-30.5	-62.6

Source: The World Bank

Oblast	Rayon	Hospital affairs and services		Polyclinics affairs and services		Public Health affairs and services		Other healthcare affairs and services	
		Rev.	Exec.	Rev.	Exec.	Rev.	Exec.	Rev.	Exec.
Dushanbe	Dushanbe	19.5	1.0	8.2	0.5	18.8	0.1	-4.1	0.0
Khatlon	Kurgan-Tjube	25.7	0.8	-5.2	-3.5	-2.5	-12.8	0.0	-0.3
GBAO	KHorog	26.2	-1.2	-0.9	-15.7	-1.9	-10.7	8.3	-11.3
	Mean	23.8	0.2	0.7	-6.3	4.8	-7.8	1.4	-3.9

Source: The World Bank

3.40 ***Additional resource from the revised budget during the year was allocated for repair and maintenance and goods and services.*** Most rayons in the survey sample allocated additional resource gained during the year for repair and maintenance, and followed by goods and services. There was no significant change in the budgetary expenditure for wage and salary and communal services during the year as both expenditures are protected. The revised budget was allocated to repair and maintenance first because it had the lowest priority during the preparation of the annual budget. The requests for repair and maintenance were considered only when there was additional revenue during the year. With regards to expenditure on goods and services, increased resources were largely spent on fuel and oil as shown in a number of rayons in the Khatlon oblast and on medicine and dressing materials. In Sogd oblast, an increase in the budget for medicine and dressing materials was reallocated from the budgets for stationary, food, fuel and lubrication. In GBAO an increase in expenditure on goods and service during the year was allocated to food,

medicine, and fuel and lubrication. Overall, the budget outcomes at the end of 2005 shows that most categories of expenditures were over executed, except expenditure for repair and maintenance and food.

3.41 ***However, the jamoats did not get additional resource from the in-year adjustment in 2005.*** The survey data shows that the majority of jamoats reported that they did not gain additional funds from the in-year budget revision, except jamoats in Dushanbe. The budget outturns show that the budgets for the education and housing, community amenity, and ecology sectors were over-executed, while the health budget was under-executed. It is likely that budgetary resource for the health sector was reallocated to other sectors.

3.42 ***Wage and salary for the health sector was paid in cash to the CRH and the jamoat.*** Payments of wage and salary were managed by accountants at the CRH and jamoat who were responsible for acquiring cash from the rayon treasury. The accountants disbursed cash to the head of facilities that in turn paid directly to individual health workers. The execution of wage and salary were generally more predictable and they were close to fully executed as unspent wage funds could be reallocated for bonuses and incentives for health workers as decided by the Chief Doctor of the CRH.

3.43 ***Procurement of goods and services were unsystematic.*** They could be procured by the oblast, rayon or CRH and distributed to health facilities by themselves or via the CRH or jamoat. As health facilities do not have bank accounts, they received in-kinds inputs (drugs, dressing materials, food, etc) from the CRH and the jamoats (See detailed analysis on other inputs in a following chapter). Medicines were procured centrally by either rayon or CRH through the regional branches of Public Procurement Agency and distributed to health facilities directly or through jamoats. Food was procured by CRH from local branches of agriculture SOEs. Expenditure for communal services (gas, electricity, heating, water, and sewage) was paid directly to suppliers that are mostly state-owned enterprises.

3.44 ***The survey shows that the CRH provided the in-kind support to the majority of health facilities***. In 2005, 49 percent of health facilities reported that they received in-kind support from the CRH, compared to 41 percent from the jamoat and 9 percent reported that they received such support from the rayon. Few facilities have received in-kind support directly from the MoH (4 percent) or the Oblast administration (6 percent).

3.45 ***End-year financial reports on budget execution were prepared and submitted to higher levels of government in 2005.*** However, there was no consensus on the level of details provided by the report as to whether the executed budget was broken down by facility. Financial reports from health facilities were submitted to the rayon or jamoat administration as reported by 92 percent of rayon and 50 percent of jamoat respondents that they received reports. One rayon and one jamoat did not prepare financial reports on the budget execution in 2005. The respondents at rayon and jamoat levels (45 percent and 49 percent, respectively) reported that the budget execution was broken down by type of facility, while 61 percent of respondents at the CRH level reported that the report was aggregated.

3.46 ***The annual budget report was frequently audited***. In 2005, budget auditing was more frequent as reported by 76 percent and 79 percent of respondents at CRH and jamoat levels, respectively, compared to 70 percent of respondents at rayon level. The auditing was carried out mostly by the State Financial Control Committee at all levels. Oblast Internal audit was carried out more frequent at rayon level (33 percent) and CRH level (33 percent) than at jamoat level (15 percent).

D. ISSUES IN BUDGET MANAGEMENT

3.47 ***Health care providers could not plan their spending as the budget was revised during the year.*** In-year budget revisions or amendments have been common practices in Tajikistan. The Public Expenditure and Financial Accountability (PEFA) assessment in 2007 found that budget revisions were mostly upward due to better revenue collections than originally forecasts due to conservative forecast of GDP growth as well as the Budget law that provide incentives[27] to underestimate revenue forecast[28]. This enabled an increase in spending at various levels. Such large deviation in revenue (Table 3.8 indicates an overall increase in revenue ranging from 73 to zero percent in 2005) reduced the reliability of the budget and therefore affecting the ability of local government to plan their activities ahead.

3.48 ***Survey responses indicated that respondents at lower levels (jamoat and facility) had limited knowledge of formal rules on budget reallocations.*** After the budget was approved, funds could be reallocated but there were restrictions. According to the law on the State Finance, funds can be reallocated across line items[29] with an exception of protected expenditure. The majority of respondents at the rayon and the CRH levels reported that funds can be allocated across line items, while only 17 out of 74 respondents at the jamoat level reported that fund can be reallocated across line items. With regard to wages and salaries that are protected items, the practice and perception seemed to be consistent with the law. Respondents at the rayon and CRH levels reported that wages and salaries could not be reallocated and only 2 out of 17 jamoats reported that reallocation was possible. There was general agreement among respondents that public investment budget was protected. The majority of respondents (90 percent at the rayon level, 66 percent at the CRH level, and 83 percent at the jamoat level) reported that public investment budget could not be reallocated. Fuel and food were items for which funds were more frequently reallocated as indicated by respondents at the rayon and CRH levels. However, few jamoats allowed reallocation of funds from these items as 94 percent of respondents at the jamoat level reported that funds budgeted for fuel could not be reallocated and 78 percent said that budgeted funds for food could not be reallocated. For drugs, 45 percent of respondents at the rayon level and 40 percent at the jamoat level reported that funds for drugs could not be reallocated while 73 percent of CRH reported so.

3.49 ***The law on State Budget stipulated that unspent funds must be returned to the Treasury at the end of the year and the practice seemed to be somewhat in line with the law***. The survey found that more than half of respondents at the rayon, CRH and jamoat level (respectively 64 percent, 64 percent and 53 percent) returned funds to the Treasury. With respect to payment of wage and salary that was allocated based on approved stavkas, only 35 percent of rayon, 26 percent of CRH and 25 percent of jamoats reported that funds from floating stavkas had to be returned. In case funds had not been returned, it was required in most of the cases that funds be used in the same facility. The majority citing such a requirement was found at the jamoat level (for 44 percent of rayon, 44 percent of CRH and 79 percent of jamoats.

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[27] Article 17 of the Law on Budget System and Process (2002) stated that revenues received in excess of budget projections as well s any excess of local revenues over local expenditures resulting from "saving" in planned expenditures are retained by the local councils and will be spent at the discretion of local executives in cities and rayons. Additional revenue has no impact on the amount of subventions or subsidies.

[28] Tajikistan: Public Expenditure and Financial Accountability Assessment – Performance Report, SECO and World Bank, June 2007, p. 23,

[29] Apart from these protected items, virement limits are wide (up to 20 per cent of a budget organization's allocation; and this limit can be exceeded if so agreed between the MOF and the budget organization.

3.50 ***The PETS found that there were delays in payment of wage and salary at all levels in 2005 and the delay lasted longer at the health facility level.*** The longest delay was observed at the facility level than at the rayon or the CRH levels. The longest duration of delay lasted one month or less as reported by 88 percent of respondents at the rayon and 66 percent of respondents at the CRH level (Figure 3.13). However, 52 percent of respondents at the health facility reported that the longest delay in payment of wage and salary lasted for two months or more. The delays were in majority due to shortfall of local government revenues.

3.51 ***In 2005 there were delays in payments of wages and salaries.*** About 12 percent, 19 percent and 29 percent of respondents respectively at the rayon, CRH and jamoat levels reported delays in cash payment for wages and salaries and 26 percent of health facilities reported having experienced such delay in 2005. The frequency of delay was higher at CRH or facility levels than at rayon or jamoat levels. More than one half of the CRH and health facilities experienced the delay three times or more in 2005 (Figure 3.14). About 77 percent of respondents at the rayon level and 41 percent at the jamoat level reported that there was only one delay.

3.52 ***Fewer number of respondents reported that they did not received the entire amount of wages and salaries in 2005.*** 13 percent of respondents at the CRH level and 6 percent at the jamoat level reported that the entire amount of wages and salary was not paid in 2005. Few respondents at the facility level (3 percent) reported that they didn't receive the entire cash payment in 2005 (usually for wage and salaries). And 48 percent of respondents at the facility level reported that they did not received in-kind resources that they needed in 2005.

3.53 ***A lack of knowledge on formal budget rules and unclear rules and processes provided scope for using discretion in allocation of public resource.*** In the health budget management, the rayon chairman was cited as the person who had the last say in resource allocation, reallocation, and the use of unspent funds. In human resource management, the Chief Doctor of the CRH was cited as the person who had authority in hiring, firing, and approving workloads of heath care workers.

3.54 ***Survey respondents were in agreement that the rayon chairman had discretion in budget management in the following areas.*** (a) The rayon had the final say in allocating the budget for each line item most of the time as reported by 73 percent, 63 `percent and 79 percent of respondents at respectively the rayon level, the CRH and the jamoat. The rayon chairman was commonly cited as the one who had the authority in reallocating funds across facility; (b) The rayon chairman was cited as having authority in budget reallocation. The reallocation of funds was more frequent at the rayon and CRH levels than at the jamoat level. For instance, only 25 percent of jamoat respondents reported reallocation across line items while 83 percent of respondents at the rayon level and 93 percent of respondents at the CRH level reported doing so. Reallocation of funds across facilities followed similar patterns though less frequent: 41 percent, 32 percent and 7 percent respectively at the rayon, CRH and jamoat levels; (c) It was widely agreed by the majority of respondents at the rayon, CRH, and jamoat levels that the rayon chairman had authority in reallocating unspent funds. However, 28 percent of respondents at the CRH level and 37 percent at the jamoat level reported that reallocation was done at their levels.

3.55 ***It was widely agreed that the chief doctor of CRH had authority in personnel management.*** Most respondent cited that the chief doctor had authority in hiring and firing of health personnel as reported by 88 percent, 91 percent and 85 percent of respondents at the rayon, CRH, and jamoat levels. Similarly, the CRH chief doctor had the authority in allocation of additional stavkas to health workers as reported by 65 percent at the rayon level, 85 percent at the CRH level, and 73 percent at the jamoat level.

E. TRACKING HEALTH EXPENDITURES

3.56 ***Tracking of health expenditure faces challenges due to a lack of an approved budget for a health facility.*** Tracking expenditure at the health facility level is not feasible as health facilities do not know the budget that they supposed to get. As the CRHs and jamoats had the budgets, the PETS focused on triangulation of data from the financial records on the approved, revised and executed health budget by economic and function classification that were available at the rayon, CRH, and jamoat levels. The survey asked for the amount of fund sent and the amount of fund received recorded by various levels. Discrepancies in budget reporting at the two levels could be due to various causes including leakages.

3.57 ***The PETS tracked wage and salary that had available payment records at all levels.*** Expenditures on wage and salary can be easily tracked due to relatively good record keeping of personnel and payroll data at all levels from the rayon down to the health facility level. All health facilities included in the survey could provide records on wage payments including approved and actual work loads allocated to individual medical staffs.

3.58 ***Tracking non-wage inputs (drugs, food, and other expenditures) at various levels was not feasible***. The tracking of non-wage inputs (drugs, food, fuel, repair and maintenance, and etc.) was omitted as the survey results could be marginalized by poor quality of survey data caused by various factors. First, procurement practices differed by locations and by goods and services. Secondly, record keeping of procurement documents was poor, especially at the health facility level as they did not have accountant and financial offers to keep records of the quantities and values of goods received. Lastly, the capacity of the local survey team is weak. Tracking would require extensive training of enumerators so that they understand various flows of funds that changed according the procurement of goods. Further, it would take more time to conduct the survey that was hindered by access to health facilities as the winter approached.

3.59 ***To examine potential leakages, the survey triangulated the budget data reported by various administrative levels.*** In this case, the health budget of the CRH reported by the rayons (from the rayon questionnaire) will be compared with the health budget of the CHR reported by itself (from either the CRH questionnaire or the health facility questionnaire). The health budgets of jamoats reported by the rayons (from the rayon questionnaire) will be compared with the self-reported health budget (from the jamoat questionnaire).

3.60 ***The survey data show discrepancies of funds that flowed from the rayon to the CRH budget.*** Of all the 15 CRHs that had budget information, 8 of them received funds in the exact amount as reported by the rayon. 7 CRHs in Ajini and Kanibadam (Sogd), Sarband and Khovaling (Khatlon), Shakrinav and Rudaki (RRS), and Shugnan (GBAO) reported discrepancies between the amount executed as reported by themselves and the amount of fund sent to these CRHs as reported by the rayons. In Rudaki and Kanibadam, CRHs reported that they received budgetary fund respectively 37 percent and 36 percent less than the amount of fund sent to the CRHs as reported by the rayons. Wage and salary constituted the main source of these discrepancies (averaged 23 percent). The CRHs in Kanibadam and Rudaki reported that they received funds for wage and salary, respectively 132 percent and 125 percent less than the amount sent to them as reported by the rayons.

3.61 ***The discrepancies in the jamoat budget as reported by jamoats themselves and by the rayons were not meaningful for interpretation.*** Information about the health budget for a large number of jamoats as reported by the rayons as well as jamoats themselves was not available. This makes it difficult to interpret the discrepancies in the spending reported by two sources.

3.62 ***In conclusion, the findings of the PETS partly verify the leakages of health funds and discretion in budget management.*** With regard to the leakages of health funds, the PETS can only shed light on a potential for leakage from the rayon to CRH as tracking of health spending for hospitals (CRH) as recorded by the rayon and by the CRH reveals some discrepancies. However, we cannot interpret the discrepancies as leakages of fund as this could be due to poor financial records keeping. The PETS cannot identify the amount of leakages at the primary health care level (medical houses/FAPs, SUBs, SVAs, polyclinics) because of two reasons. First, health facilities besides CRHs did not know their approved budgets. Secondly, it is difficult to track the total amount of fund that facilities received as they received both cash and in-kind inputs. Facilities received cash for payments of wage and salaries, while receipts of in-kind inputs (medicine, dressing materials, etc) had no detailed records on the quantity of inputs and values as they do not have accountants.

3.63 ***The survey found that the Rayon had discretion in allocating resource at the preparation and execution stages to various sectors.*** At the preparation stage, the rayon had the last say in the final budget allocation to sectors including health. It also decided on the use of additional resources from additional revenues that led to a revision of the rayon's budget. At the execution stage, the rayon authorized transfer of funds to budget executors in the health sector namely the CRH and jamoats and it authorized the transfer of fund across line items, across facilities, etc. The chief of CRH has discretion in allocating floating stavka to health personnel and also has full authority in hiring and firing of health personnel.

4. HUMAN RESOURCES FOR HEALTH

A. INTRODUCTION

4.1 ***This chapter focuses on Tajikistan's health workers characteristics, work environment and perceptions on the health sector***. It uses data collected by the Tajikistan Health PETS, carried out late 2006, especially the staff module in the facility questionnaire administered to the head of the facility and the staff interviews. In each facility, seven employees were randomly selected to answer a structured questionnaire. The survey collected data on a total of 317 health facilities and 1,282 employees.

4.2 ***The head of the facility, the main respondent for the facility questionnaire, was asked to provide for each employee, the name, gender, position in the facility, the number of stavkas or 'loads' held, and the salary***. The head was also asked whether the employee was in the premises of the facility at the time of the survey. In case a staff is absent, the reason for absence was also asked. Because of space constraints, it was possible to collect the information on a maximum of 27 employees in each facility. Therefore, for facilities with 28 or more staff such as the CRH, the head of the facility provided the information on 27 employees randomly chosen from the facility's staff list. In addition to the roster, the enumerators interviewed seven randomly chosen staff among those who were in the premises. For facilities with seven or fewer employees, all the workers were interviewed.

B. TAJIKISTAN HEALTH WORK FORCE CHARACTERISTICS

4.3 ***Table 4.1 shows the regional distribution of public health facilities in Tajikistan and provides information on their size in terms of the total number of employees.*** Health care is provided by a wide array of facilities which range from big facilities such as the CRH which serves as many as 300,000 individuals in a whole rayon to the small rural SVA and medical houses (FAP) which cater to the health needs of sometimes less than 200 individuals.

Table 4.1: Distribution of Staff Size by Type of Facility
(Self Reported Total)

	N	%	Mean	S.D.	Min	Median	Max
CRH	28	2.9	309.8	204.5	64	237	963
Other Hospital	22	5.7	67.1	104.2	10	34	429
Polyclinic	18	4.6	86.7	73.8	18	68	273
SUB	27	9.2	40.2	34.4	13	32	153
SVA	59	21.2	9.3	5.1	2	8	30
Medical House	156	53.9	3.2	3.5	1	3	6
Other	7	2.5	10.2	9.8	1	10	27
All	317	100	24.4	71.3	1	4	963

Source: Tajikistan Health PETS 2006

4.4 ***There are 28 CRH that have been visited, one for each rayon except in Dushanbe and Khorog in GBAO which do not have CRHs.*** After weighting the facilities, the CRHs constitute 2.9 percent of the universe of public health providers in Tajikistan. The medical houses and SVA,

which are small rural providers, account for more than 2/3 of health providers in Tajikistan. The medical houses alone constitute more than half of the providers. The category "other" is mostly comprised of dispensaries and some specialized centers. There is a huge variation in the size of the facilities as Table 4.2 shows. Indeed, facility's size varies from over 300 employees in a CRH to 3.2 employees on average in a medical house. There is also quite some heterogeneity even within categories of health providers with the smallest CRH which has only 64 employees on its payroll whereas the largest employs almost 1,000 health workers.

Table 4.2: Average Staff Size by Oblast and Type of Facility

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
CRH	.	397.3	249.1	231.8	424.1	393.8	153.3	309.8
Other Hospital	167	29.2	78.8	.	40.1	68.1	53	67.1
Polyclinic	134.8	67.4	34.2	130.8	80	102.2	31.5	86.7
SUB	.	58.4	32.2	31.9	17.5	33.3	40.6	40.2
SVA	.	10.2	7.9	10.7	4.5	.	9.3	9.3
Medical House	.	3.4	3.6	2.7	2.4	.	3.2	3.2
Other	.	2	23.5	10	5	14.5	5.5	10.2
All	147.7	27.5	20.6	18.5	31.2	119.5	10.7	24.4

Source: Tajikistan Health PETS 2006

4.5 ***Although the average health facility in Tajikistan employs 24.4 people (median is only 4), this number hides important regional variations.*** Indeed, the average facility in Dushanbe has 147.7 individuals on its payroll, whereas the average facility in the republican rayons has only 18.5 employees. Urban facilities are on average more than ten times bigger than rural ones. The primary health care facilities – SUB, SVA, and Medical house – are consistently smaller in GBAO. They are only half the size of the average primary health care providers elsewhere.

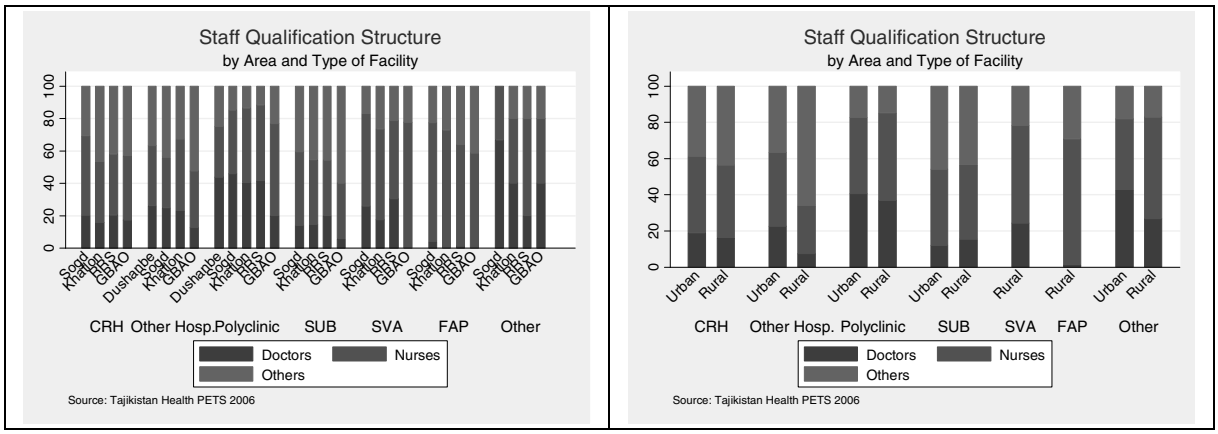
Table 4.3: Gender Composition (percent Women in Staff)

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
CRH	.	70.7	75.5	62	81.4	74.6	64.3	72.8
Other Hospital	66.8	66	64.7	.	80.7	67.8	75.5	68.2
Polyclinic	82.8	66.7	56.3	81.2	84.4	78.4	61.3	77
SUB	.	72.8	57.4	72.3	77.1	50.1	70.3	69.5
SVA	.	76.9	65	76.1	100	.	73.1	73.1
Medical House	.	71.5	59.1	77.1	94.4	.	69.3	69.3
Other	.	100	68.1	100	60	69.1	100	77
All	75.6	71.4	66.9	73.3	82.2	73.6	69.7	72.1

Source: Tajikistan Health PETS 2006 – Facility Questionnaire

4.6 ***In Tajikistan, the health sector is clearly dominated by women who constitute 72.1 percent of the workforce.*** Facilities in GBAO and Dushanbe have the highest proportion of female in their staff with 82.2 and 75.6 percent respectively. Urban facilities are also slightly more likely to have a high proportion of women than rural ones.

Figure 4.1: Health Sector Staff Qualification Structure – Tajikistan 2006



4.7 ***Because of the existence of strong complementarities, the skill-mix in a health facility is an important quality indicator.*** Figure 4.1 shows the proportion of doctors, nurses, and other personnel in the facilities. The nurse to doctor ratio, an important staffing quality indicator, varies widely in Tajikistan. Although there is no standard or optimal nurse to doctor ratio, the 1993 WDR suggests as a rule thumb the ratio to fall somewhere between 2 and 4 (p. 139). This ratio is 2.08 at the national level with significant variation both geographically and by type of providers. The lowest ratio, 0.95, is found in Dushanbe which therefore hosts more doctors than nurses. This is symptomatic of the fact that doctors can exercise their preference and stay in the capital city and/or the difficulty to create enough incentives to move them in rural areas, with an average ratio of 3.15, where they are needed. GBAO displays the highest ratio with 2.71 nurses in the average facility for each doctor.

4.8 ***Among the types of facilities, the highest ratio is found among the SUBs with 2.72 nurses per doctor.30*** The polyclinics which are big facilities with an average of 86.7 staff have the lowest ratio with just almost as many doctors than nurses. Though the country has the right mix of nurses and doctors to meet the minimum ratio of 2:1, a reallocation of doctors from Dushanbe to other oblasts and from the polyclinics to other facilities should be operated to correct the strong imbalances that exist in the system.

Table 4.4: Tajikistan Health Workers Education Profile

	Primary or Basic	Secondary	Vocational	Higher Education
Doctor	0	0	2.6	97.4
Nurses/Feldshers	0	0	97.7	2.3
Technician	0	2.6	88.9	8.5
Administrative staff	2.8	46.5	33.3	17.4
Hospital attendant	39.9	58.9	1.2	0
All	3.9	11.3	45.6	37.4

Source: Tajikistan Health PETS 2006 – Staff Questionnaire

Note: There are very few people in Higher Education that did in fact not finish the cycle

[30] The medical houses (FAP) with an average of 53.2 nurses per doctor (not shown in figure) have the highest ratio but this is just the reflection of the fact that FAP do normally not have doctors. As a matter of fact only 6 FAPs out of 156 in the sample have a doctor in their staff.

4.9 ***Let us explore further Tajikistan's health workforce characteristics such as the education profile, experience in the health sector, etc***. using the data collected in the staff survey. Almost all doctors have received higher education, though 2.6 percent say they had vocational training. The nurses and technicians received vocational training. Some 8.5 percent of the technicians went to higher education. The attendants dropped out after secondary school, though 39.9 percent remained at the primary or basic level. All doctors and nurses or feldshers have received some medical education. Almost all technicians (except 2.6 percent) also have been medically trained. More than a quarter of the administrators 26.1 percent state they received medical training; those are probably former medical staff that later preferred to serve in the management. As expected, none of the hospital attendants received any medical training. Overall the education profile of Tajikistan health workforce seems adequate with a good balance between unskilled and skill staff.

Table 4.5: Experience in Health Sector and Longevity in Facility

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Tajikistan
Years in Health Sector						
Doctor	18.7	20	19.1	20.1	15.2	19.1
Nurses/Feldshers	20.7	21	18.6	16. 6	16.9	19
Technician	8.2	11.6	18.1	17.2	3.5	8.5
Administrator	16.2	17.9	11.8	8.7	14	14.1
Hosp. Att.	18.8	11.4	10	11.8	6.7	10.6
All	**19**	**19.5**	**16.8**	**16.8**	**13.3**	**17.2**
Years in This Facility						
Doctor	11.84	15.77	11.1	14.9	10.9	13.2
Nurses/Feldshers	13.93	17.59	10.7	13.4	14.3	14.1
Technician	6.57	10.24	10.4	17.2	3.5	6.8
Administrator	13.6	15.3	9.2	6.2	13.7	11.9
Hosp. Att.	18.8	9.4	8.9	10.4	6.7	9.4
All	**12.7**	**16**	**10.4**	**13**	**11**	**12.8**

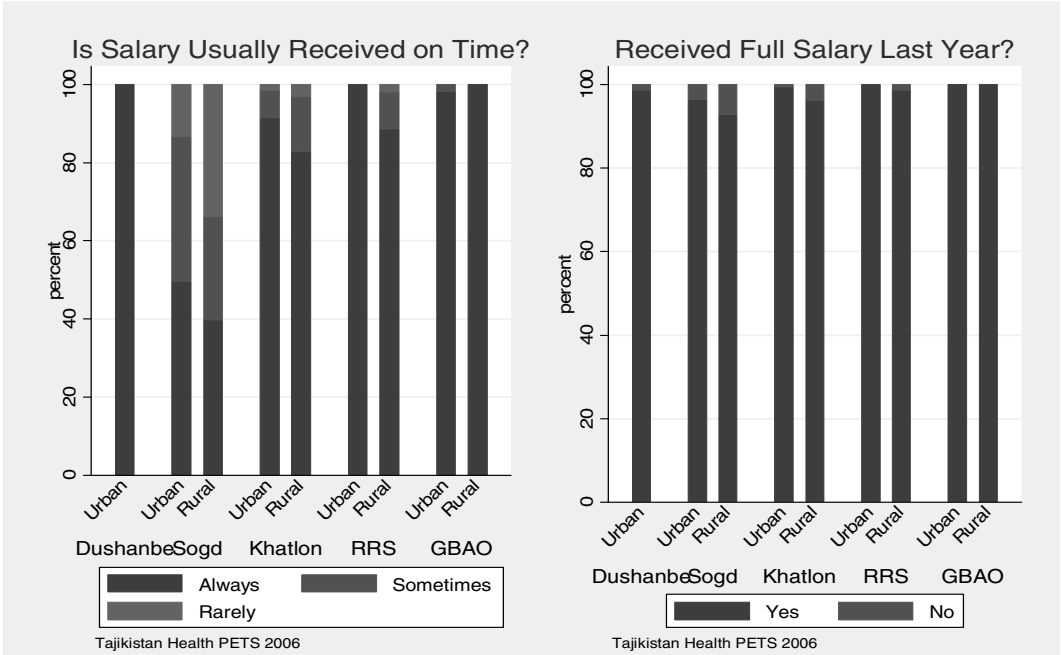
Source: Tajikistan Health PETS 2006

4.10 ***Table 4.5 shows that health workers in Tajikistan have quite a lot of experience in the sector.*** The average employee has 17.2 years of experience, with doctors and nurses enjoying an edge with over 19 years in the sector. The average health worker has spent in her facility 12.8 years at the time of the survey. Health workers in Tajikistan thus should have a very good knowledge of the communities they serve and can therefore serve them better. It is in Sogd that the average length of stay is the highest with 16 years. Not surprisingly, unskilled workers such as the hospital attendants have a much lower turnover rate since most of them have always been in the same facility.

C. STAFF WAGES, STAVKA ALLOCATION, AND DECISION-MAKING POWER

4.11 ***Although salaries are protected spending, the wage system in Tajikistan was fraught with problems until very recently, especially in health and education***. In its assessment of the wage system, the wage note (World Bank 2005a) flags serious delays in the receipt of salaries and a substantial build-up of arrears in the health sector (p. 72) as recently as 2004.

Figure 4.2: Delays and Leakage in Salary Payments



4.12 ***The GoT has undertaken a number of reforms recently and has seemingly tackled efficiently and successfully salary delays and arrears for the health sector as shown by Figure 4.2. There is a near consensus throughout the country among the health workers who state they almost always receive their salary on time***. In Sogd, however, delays are still an issue since less than 40 percent, and 45 percent of the personnel in rural and urban areas respectively received their pay on time. Few health workers in Khatlon and rural RRS claim to still experience delays. Almost all health workers have received their entire salary.

4.13 ***Although previous delays and arrears in salary receipt have been efficiently dealt with by the GoT, Tajikistan's health workers still have very low wages despite recent reforms aiming at their increase.*** Table 4.6 gives the full monthly (official) salary of health workers by category and across oblasts. The full salary includes the base salary, bonuses, and all existing allowances the staff is entitled to such as hardship or single mother supplements. There is a huge premium for working in Dushanbe for all categories of workers. Even hospital attendants in Dushanbe seem to make more than doctors elsewhere in the country. This factor constitutes a powerful brake for any attempt to send doctors in remote areas and may partly explain the very high proportion of doctors per facility in Dushanbe -38.3 percent vs. a national average of 11.3 percent- and its very low nurse to doctor ratio. The average total salary in Dushanbe is more than twice the average national salary. The RRS and GBAO have the lowest salaries for almost all categories of personnel.

Table 4.6: Full Monthly Official Salary
(in Somonis, 1$US=3.19Sm in 2005)

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
Doctor	111.4	56.7	56.8	49	52.4	64.9	46.9	60.1
Nurse	86.7	36.6	43.7	33.6	36.8	50.5	32.4	42.2
Technicians	110.4	51.3	33	20.8	57.2	60.3	27.5	54.6
Administrative	111.6	41	51.7	38.3	36.7	52	33.1	44.4
Hosp. Attend.	95.8	34	25.8	18.2	24.9	29.3	21.9	25.9
All	101.2	43.9	46.8	38.9	42.2	55.6	35.1	48

Source: Tajikistan Health PETS 2006 – Staff Questionnaire

4.14 ***In Tajikistan, the wage bill is still norm-based and depends on the number of official positions a facility 'should' have given its category***. When the number of employees is lower than the number of official positions, the savings are often used to supplement workers salary by giving them extra stavkas or 'loads'. It is of paramount interest to identify the person(s) who hold most of the decision-making power for the allocation of the extra stavkas.

Table 4.7: Average Stavkas and Wage Bill per Facility by Oblast

	Number of Stavkas			Total Wage Bill	
	Approved	Occupied	Actual Staff size	Approved	Paid
Dushanbe	270.5	261.6	147.7	77936.8	77673.2
Sogd	33.6	32.9	27.5	19025.6	12881.0
Khatlon	37.6	29.3	20.6	9089.0	8196.6
RRS	29.5	24.3	18.5	6048.3	5378.2
GBAO	34.8	33.5	31.2	15113.5	13845.7
Urban	198.0	171.3	119.5	58490.2	55078.6
Rural	15.5	13.6	10.7	4283.5	3809.9
Tajikistan	37.1	32.3	24.4	11870.8	10277.9

Source: Tajikistan Health PETS 2006

4.15 ***Table 4.7 shows the number of approved stavkas, occupied stavkas, and the actual staff size in the average facility by oblast***. Clearly the number of approved stavkas, which serves as basis for the computation of the budgeted wage bill, is much greater than the number of employees on the facility's payroll. On average a Tajik facility has 52 percent more approved stavkas than employees, therefore over 1/3 of the wage bill in the health sector is unallocated. However, the employees can be granted extra stavkas under a set of unspecified and informal rules. The amount of resources involved warrants a closer look on the allocation mechanisms of extra stavkas. Table 4.7 shows that from the average 12.7 extra stavkas, 7.9 are redistributed to the employees whereas the remaining 4.8 which are prepaid for remain elusive. It is in GBAO that the number of employees is closer to the actual number of approved stavkas, while in Dushanbe there are on average 122.8 extra stavkas in each facility for 147.7 employees.

4.16 ***Although the stavka allocation issue is well known and has been noted in several reports (World Bank 2005a and 2005b), this report is the first to offer a solid quantified measure of the scale of the resource involved***. The wage note (World Bank 2005a) analyzed one hospital payroll and generated interesting though non-generalizable conclusions. The PETS is in

fact the first survey that collected data on the number of stavka a representative sample of health workers hold. Table 4.8 shows by how much the salary of each type of staff, across oblasts, could be increased within the actual wage bill. Nurses in Dushanbe could have their salary more than doubled. Even in GBAO, where the number of "floating" stavkas is the lowest, doctors' wage could be increased by almost 50 percent. At the country level, the wages of doctors, nurses, and other personnel can be increased by 51.3, 53.1, and 47.7 percent respectively with no additional fiscal effort.

Table 4.8: Fiscal Space from Floating Stavkas

	% Difference App. Stavkas to Staff Size.		
	Doctors	Nurses	Other
Dushanbe	32.8	143.3	74.7
Sogd	16.3	15	38
Khatlon	103.2	87.4	68.2
RRS	48.5	62.5	56.8
GBAO	49.9	8.1	0.9
Urban	41.8	61	57.5
Rural	75.9	42.4	33.2
Tajikistan	51.3	53.1	47.7

Source: Tajikistan Health PETS.

Who Allocates Stavkas To Whom?

4.17 ***When asked whether they are involved in the decision making process of extra stavkas allocation, Table 4.9 shows that 60 percent of heads of facility in rural areas are not vs. less than 20 percent in urban areas.*** The highest level of participation is recorded in Dushanbe (90 percent), in contrast to the RRS where only 26 percent of the heads are involved. On average, less than half of the facility heads are involved one way or the other.

Table 4.9: Involvement of Head of Facility in Stavka Allocation Process

	Involved Stavka Allocation			Are any Criteria used for the Allocation of Stavkas			Bonuses		
	YES	NO	DK	YES	NO	DK	YES	NO	DK
Dushanbe	90	10	0	80	20	0	100	0	0
Sogd	59.3	36.3	4.4	56.4	33.5	10.2	51.7	25.1	23.2
Khatlon	44.3	49.7	6	48.3	18.3	33.4	37.6	10.9	51.5
RRS	26	74	0	47.5	5.1	47.3	28.8	13.9	57.3
GBAO	57	39.5	3.6	31.7	18	50.2	14	32.1	54
Urban	81.7	18.3	0	77.5	18	4.5	75.8	8.7	15.6
Rural	39.8	56	4.2	44.7	18.7	36.6	31.6	18.5	49.9
Tajikistan	45.1	51.3	3.7	48.8	18.6	32.6	37.2	17.3	45.5

Source: Tajikistan Health PETS 2006

4.18 ***Table 4.9 shows also the perception of the heads of facility on the use of objective criteria for the allocation of extra stavkas***. Most of the heads of facility in Dushanbe (80 percent) think that indeed objective criteria are used for that purpose, whereas in GBAO almost 70 percent

of the heads of facility think the allocation of stavkas follows no predefined or known criteria. At the national level, more than half of the heads of facility also share the same belief. Among those who think that allocation criteria exist and are used to (re)distribute extra stavkas, the two most cited criteria are effort-based such as staff workload and staff working overtime. In the urban areas, 57.8 percent also believe that stavkas are used to compensate for staff's already low salaries.

4.19 ***If heads of facility feel they have no clout in the allocation of extra stavkas, whom then do they attribute that power to?*** Heads of facility overwhelmingly perceive the CRH director as the one who decides the allocation of stavka (see Table 4.10a) with at least 70.7 percent saying so. At the CRH level, 92.8 percent (i.e. 56.7 plus 36.1) of the directors recognize that they wield most of the power in that process. Heads of big facilities like oblast hospitals or polyclinics seem to have some leverage in that decision, whereas the heads of the medical houses are completely out of the loop with only 2.6 percent who think they are the ones with most say. Jamoats also seem not to be involved much in the decision.

Table 4.10a: Distribution of Decision Making Power in Stavkas Allocation

	MoH/MoF	Oblast	Rayon	Jamoat	CRH	Facility	DK
CRH	1.6	1.8	3.7	0	36.1	56.7	0
Other Hospital	0	41.3	5.9	0	17.6	35.2	0
Polyclinic	2.7	12.1	0	0	51.7	33.6	0
SUB	0	4.3	12.8	0	59.3	23.7	0
SVA	0	0	2.3	1.6	81.2	12.5	2.4
Medical House	0	0	3.2	6.4	79.7	2.6	8.2
Other	0	0	12.7	0	25.4	61.9	0
All	0.2	3.4	4.2	3.8	70.7	13	4.9

Source: Tajikistan Health PETS 2006 – Facility Questionnaire

4.20 ***Table 4.10b which show the responses of health workers who hold extra stavkas and were asked about the person (entity) who granted them extra stavka***. Health workers clearly confirm the huge power of the CRH directors. Indeed, 47.7 percent of the stavka holders identify the CRH director as the ultimate decider. The workers in the CRHs, SUBs, SVAs, and medical houses overwhelmingly state that the CRH director is directly responsible for their holding extra stavkas.

Table 4.10b: Who Granted You Extra Stavkas?
(Percent)

	MoH/MoF	Oblast	Rayon	Jamoat	CRH	Facility	Other/DK
CRH	1	1	0	0	61	29.7	7.2
Other Hospital	0	3.2	0.9	0	14.3	75.6	5.9
Polyclinic	0.5	0.2	0.5	0	35.1	56.6	7
SUB	0	0.2	0.2	0.8	38	53	7.8
SVA	0.5	0	0.7	0.9	75	18.5	4.5
Medical House	0.2	0	1.5	2.1	77.3	7.7	11.2
Other	0	29.5	3.9	0	17.8	48.8	0
All	0.5	1.3	0.5	0.3	47.7	42.8	6.9

Source: Tajikistan Health PETS 2006 – Staff Questionnaire

4.21 ***The CRH director is thus the single most powerful individual in the allocation of extra stavkas.*** The survey asked the health workers about their perceptions on the allocation of the extra stavka. There is some discontent about the way extra stavkas are allocated. The right panel of Table 4.11 shows that among the staff members, only about 9.1 percent think that extra stavkas are not fairly allocated. The highest levels of discontent are observed in Dushanbe (21 percent) and RRS (17.4 percent). Whereas in RRS it is the non holders of extra stavkas who express more discontent, in Dushanbe the proportion of staff who are unhappy with the allocation of extra stavkas is higher among the stavkas holders (24.8 percent) than the non-holders (17.4 percent). At the national level, however, the non-holders are more likely to be unhappy with the existing allocation.

Table 4.11: Criteria Used for the Allocation of Extra Stavkas – Discontent about Allocation

	Following criterion used					Unhappy with Stavka Allocation		
	Work-load	Number Beds	Needs	Over-time	Increase low salary	Stavkas Holders	Stav. Non-Holders	All
Dushanbe	80	10	70	80	50	24.8	17.4	21
Sogd	80.8	65.1	20.5	79.3	57.1	2.8	6.2	4.1
Khatlon	52.5	27.4	20	64	25.4	5.4	12.1	7.9
RRS	88.1	69.5	41.7	38.6	45.4	10	32.4	17.4
GBAO	60.5	36.2	39.5	80.3	39.5	1.8	2.4	2.2
Urban	59.6	32.8	37.5	69.7	57.8	8.6	15.7	11.3
Rural	75	54.7	23.4	63.8	36.5	2.9	8.3	5.3
Tajikistan	71	49.1	27.1	65.3	42	6.6	12.7	9.1

Source: Tajikistan Health PETS 2006

Who Gets Extra Stavkas?

4.22 ***Staff members are granted from ½ to 4 extra stavkas with quite a bit of variation across staff qualification and oblast.*** It must be noted that some workers, especially doctors, may hold service contracts with the administration which provides them with 2.5 to 4 stavkas. The preceding section has shown that the CRH director almost unilaterally decides on the allocation of extra stavkas. This section aims at better understanding the allocation of extra stavkas. Table 4.12a shows the distribution of stavkas held by the employees according to the head of the facility. Doctors have on average the highest number of stavkas (1.3) followed by nurses and feldshers with 1.26 stavkas. Male workers also hold significantly more stavkas than women whereas there seems to be no difference between urban and rural areas.

Table 4.12a: Number of Stavkas per Staff based on Head of Facility Report

	Doctors	Nurses/Feldshers	Other Medical Personnel	Administrator	All
Dushanbe	1.16	1.36	1.31	1.36	1.27
Sogd	1.33	1.18	1.16	1.36	1.22
Khatlon	1.32	1.34	1.17	1.14	1.28
RRS	1.29	1.32	1.14	1.1	1.26
GBAO	1.25	1.05	0.9	1.08	1.04
Urban	1.25	1.2	1.19	1.15	1.21
Rural	1.35	1.28	1.1	1.2	1.24
Male	1.31	1.39	1.16	1.2	1.31
Female	1.27	1.23	1.12	1.16	1.2
Tajikistan	1.3	1.26	1.13	1.18	1.23

Source: Tajikistan Health PETS 2006 – Facility Questionnaire

4.23 ***Table 4.12b which is based on the staff interviews provides a slightly different picture with a much higher average number of stavkas per employee with technicians and administrators holding more stavkas than doctors and nurses.31*** Similar to the head of facility reports, male workers have more stavkas than their female counterparts, and staff in Sogd and Khatlon oblasts have above average stavkas.

Table 4.12b: Number of Stavkas Held based on Staff Interview

	Doctors	Nurses/Feldshers	Technician	Administrator	Hosp. Att.	All
Dushanbe	1.59	1.46	.	1.5	1.5	1.52
Sogd	1.7	1.56	2.15	1.67	1.46	1.63
Khatlon	1.63	1.63	1.9	1.67	1.52	1.63
RRS	1.52	1.57	2	1.59	1.51	1.55
GBAO	1.53	1.42	1.5	1.54	1.5	1.5
Male	1.61	1.66	3	1.68	.	1.64
Female	1.59	1.55	1.68	1.59	1.51	1.57
Tajikistan	1.61	1.57	1.74	1.63	1.51	1.59

Source: Tajikistan Health PETS 2006 – Staff Questionnaire

4.24 ***To have a better understanding of extra stavkas allocation and the number of stavkas a particular staff is granted we have conducted a multivariate analysis controlling for both facility and staff characteristics.*** The results of the probit and linear regression analysis are shown in Table 4.13. The first three columns show results using the data collected from the head of facility whereas in columns (4) to (6) the data used comes from interviews with individual health workers.

4.25 ***From the heads of facility's answers health workers in Khatlon and RRS have between 11 and 13 percent higher probabilities of holding extra stavkas than workers in Dushanbe and Sogd, and over 35 percent when compared to staff in GBAO***. Rural health workers and women are also less likely to benefit from extra stavkas. Doctors and nurses have significantly higher

[31] It is noteworthy that only present employees have been interviewed and it might be that those who hold more stavkas are more likely to be in the facility's premises as confirmed by the regression analysis in Table 4.13. This could account for the observed differences between head of facility and staff member's reports.

chances of holding extra stavkas. When asked to individual staff, workers in Dushanbe and GBAO seem to have the same likelihood to hold extra stavkas. Experience in the health sector also positively impacts the chances of having extra stavkas. However, conditional on having more than one stavka, more experienced people do not seem to have a bigger number of stavkas.

Table 4.13: Determinants of Extra Stavka Holdings

	Facility Staff Roster			Staff Direct Interview		
	(1)	(2)	(3)	(4)	(5)	(6)
	Probit		Lin. Reg.	Probit		Lin. Reg.
Sogd	(0.043)	(0.053)	-0.085**	0.150***	0.159***	0.130***
	(0.037)	(0.037)	(0.033)	(0.05)	(0.05)	(0.040)
Khatlon	0.139**	0.131**	0.032	0.313***	0.336***	0.219***
	(0.055)	(0.056)	(0.045)	(0.05)	(0.05)	(0.051)
RRS	0.117**	0.114**	0.081	0.267***	0.289***	0.185***
	(0.056)	(0.057)	(0.083)	(0.06)	(0.07)	(0.064)
GBAO	-0.237***	-0.239***	-0.212***	(0.01)	(0.00)	0.013
	(0.038)	(0.040)	(0.029)	(0.07)	(0.07)	(0.040)
Rural	-0.095*	-0.091*	0.000	-0.106**	-0.097*	0.009
	(0.053)	(0.054)	(0.047)	(0.05)	(0.05)	(0.043)
Facility staff size	-0.009	-0.010	-0.021	0.00	0.00	-0.082*
	(0.026)	(0.026)	(0.039)	(0.00)	(0.00)	(0.042)
Female	-0.000**	-0.000**	0.000	-0.113***	-0.03	0.000
	0.000	0.000	0.000	(0.04)	(0.04)	(0.000)
Doctors	0.155**	0.144**	0.109		0.282***	0.163***
	(0.062)	(0.062)	(0.064)		(0.06)	(0.047)
Nurses/Feldshers	0.154***	0.153***	0.102***		0.229***	0.100***
	(0.038)	(0.038)	(0.031)		(0.05)	(0.036)
Administrator	-0.015	-0.021	0.059		0.292***	0.167***
	(0.036)	(0.036)	(0.052)		(0.07)	(0.047)
Absent survey time		-0.077***	-0.082***			
		(0.020)	(0.018)			
Age				-0.009***	-0.006*	0.001***
				(0.00)	(0.00)	(0.000)
Experience				0.003***	0.002***	-0.000*
				(0.00)	(0.00)	(0.000)
Exp. squared				-0.000**	-0.000**	-0.004*
				(0.00)	(0.00)	(0.002)
Constant			1.223***			1.085***
			(0.057)			(0.094)
Observations	3498	3498	3498	1254	1254	1254
(Pseudo) R-squared	0.06	0.06	0.05	0.1	0.12	0.12
Log Likelihood	-2246.04	-2237.98		-777.88	-761.07	
Robust standard errors in parentheses						
* significant at 10%; ** significant at 5%; *** significant at 1%						

Source: Tajikistan Health PETS

Discretionary Power in Personnel Management

4.26 ***Given the enormous power vested in the CRH directors on the allocation of extra stavka, they collectively control more than a third of the health sector's wage bill.*** CRH directors are thus key players in the health sector. It is therefore of paramount interest to fully grasp the extent of their power within the sector. On top of their decision-making power on stavka allocation, the survey sought to shed light on the CRH directors' importance over other personnel management issues such as hiring and firing decisions. Table 4.14 shows the person

considered as the hiring manager from the staff viewpoint. Each staff was asked to identify the person who hired her in the facility. Overall, almost half of the personnel, 49.2 percent, designate the CRH director as the hiring manager. High-level position such as doctors, administrators, and nurses are more likely to be filled by a person chosen by the CRH. For lower-level positions such as the technician or the attendants, the CRH seemingly delegates her powers to the head of the facility. The MoH and the hukumats (oblast or rayon) are also involved, though to a lesser extent, in the hiring of doctors. Interviewees at the rayon hukumat confirm this finding. Indeed, more than 83 percent of the respondents to the rayon questionnaire (Table not shown here, see chapter 2) indicate that, for the health sector, the CRH director is almost solely responsible for the hiring and firing of personnel at the rayon level.

Table 4.14: Hiring Person by Type of Staff

	Doctor	Nurse	Technician	Administrative	Hosp. Att.	All
Ministry of Health	5.1	0	0	1	0	2
Oblast Adm.	15.3	1.4	1.7	0	0	6.2
Rayon Adm.	5.9	0.2	0	0.4	0	2.3
Jamoat Adm.	0	0.2	0.3	1.2	5.5	0.7
CRH Director	53.8	50.6	27.5	49.5	32.9	49.2
Facility Head Doctor	19.9	47.2	70.6	47.7	60.9	39.4
Other	0	0.4	0	0.2	0.7	0.2

Source: Tajikistan Health PETS 2006

4.27 ***The concentration of decision making powers into the hands of the CRH director may have unintended perverse effects.*** One such possible effect that comes to mind is the disincentive to hire new health workers to make up for staff loss due to retirement or say out-migration. The CRH director decides on the number of stavkas to allocate, and although the wage bill is disbursed in full by the rayon treasury, funds that have not been used for wages can be kept by the CRH director who can re-allocate them the way he sees fit (see para. 4.39). Since the CRH director also decides whether to hire more staff, there is no incentive to fill a recently vacant position for which the funds are available for other uses legitimate or not.

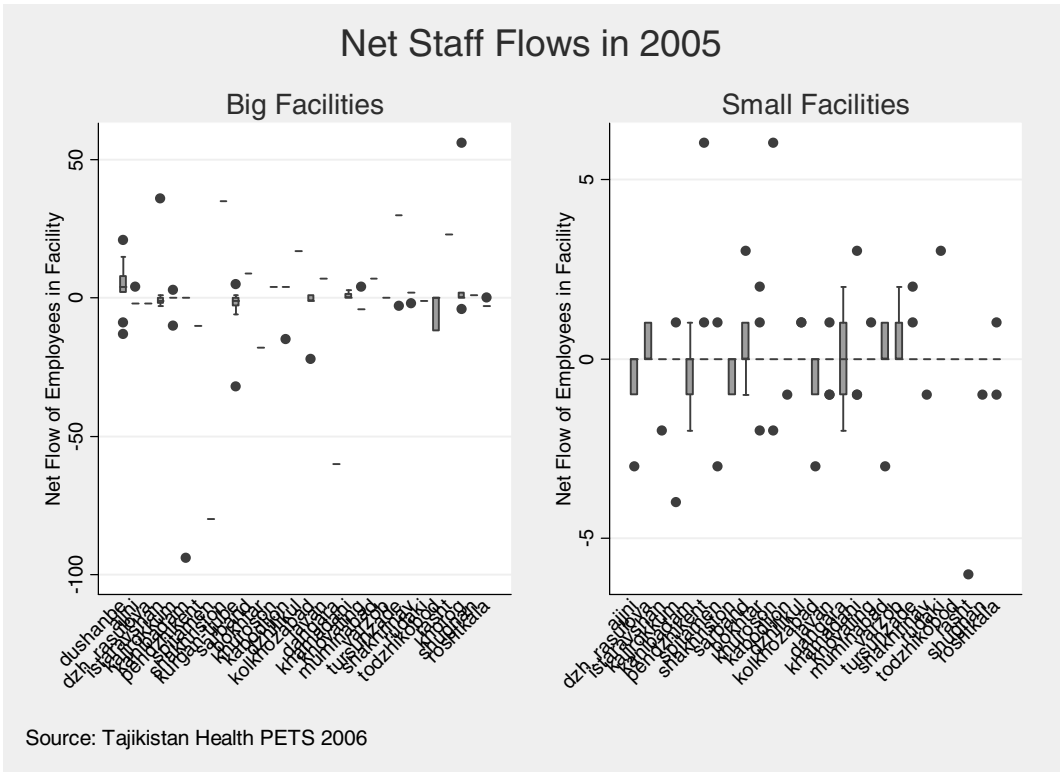
4.28 ***The heads of facility provided information about the flows in their personnel for the 2005 calendar year. Information has been collected on the number of new recruits, firings, transfers, retirements, resignation, or deaths.*** Table 4.15 shows the net flow of staff during the year 2005. There seems to be little overall movement in the size of the facilities. It is only in Sogd and Khatlon, that the facilities lost staff in net terms, while the average facility in Dushanbe added 4.1 health workers on its payroll. Overall, there has been one new hire for every five facilities in Tajikistan in 2005. Table 4.15 hides a lot of variation in the staff flows at the rayon level as shown by Figure 4.3. A more in-depth study is needed to further explore this important issue.

Table 4.15: Net Flow of Health Workers per Facility in 2005

	Dushanbe	Sogd	Khatlon	RRS	Gbao	Urban	Rural	Tajikistan
CRH	.	-12.1	0.8	-1.1	33	3.9	-3.3	1.4
Other Hospital	11.5	-1.4	-4.5	.	-0.8	-1.4	-3	-1.5
Polyclinic	-0.8	-3.5	-0.5	18.6	1	5	-0.7	3.7
SUB	.	0.1	-0.2	-0.5	-0.5	0	-0.2	-0.2
SVA	.	0.1	0.1	0.3	0	.	0.2	0.2
Medical House	.	-0.1	0.1	0	0	.	0	0
Other	.	0	-2.5	2	0	-1.3	0.9	-0.3
All	4.1	-0.5	-0.3	0.8	1.2	1.3	0	0.2

Source: Tajikistan Health PETS 2006

Figure 4.3: Net Flow of Health Workers per Facility by Rayon



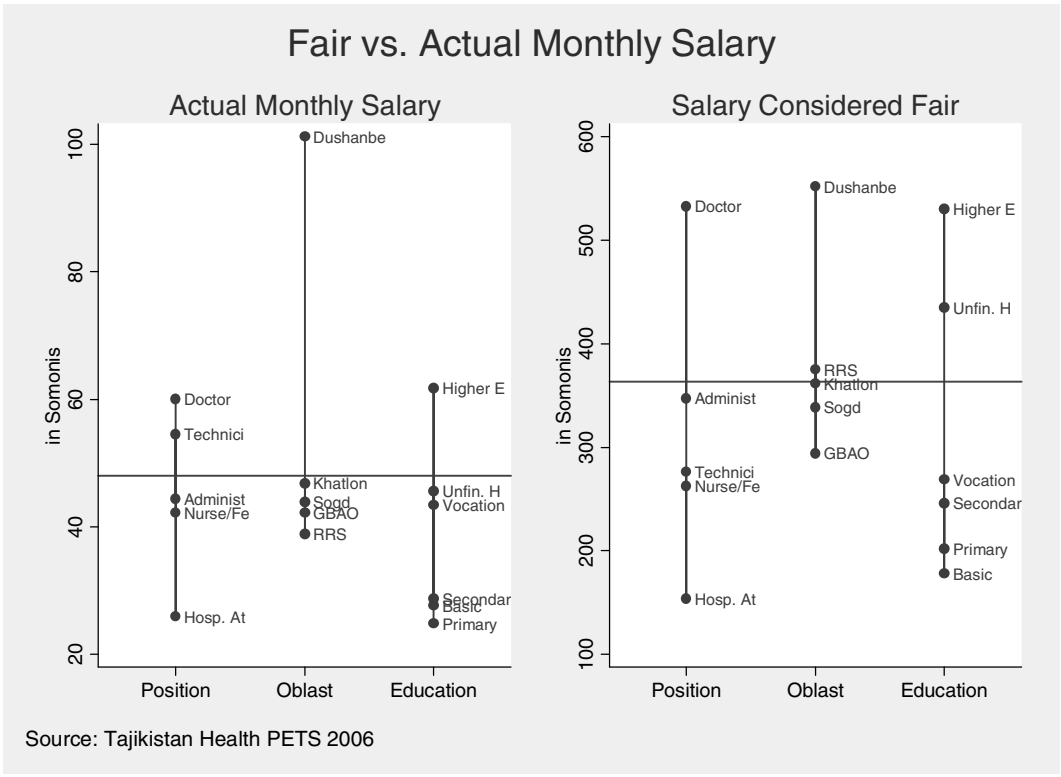
D. COPING MECHANISMS, STAFF MORALE AND ABSENTEEISM

4.29 ***As shown in the previous section, health workers are paid very low wages. However, the sizeable number of unoccupied stavkas leaves the CRH director with important additional resources to be redistributed the way he pleases.*** This issue is salient because of the impact of remuneration on staff morale and productivity. Indeed, low-pay is often deemed as a major determinant of moonlighting or informal charges, it also influences absenteeism. This section studies the strategies developed by health workers to top-up their wages, and the impact on their morale.

Fair Salary and Coping Mechanisms

4.30 ***Given the low level of remuneration health workers have, and the wage reform envisioned by GoT and its partners, it would be interesting to know from the workers themselves the salary they would consider ads fair***. The survey included such a question to all surveyed health workers and their responses are plotted in Figure 4.4 against their actual level of earnings.

Figure 4.4: Fair Salary vs. Actual Salary



4.31 ***As expected, fair salaries are much higher than actual salaries.*** They also vary widely across both oblast and staff category. The regional variation probably reflects the cost-of-living differences across localities, whereas variation across categories reflects expected returns to education. The average fair salary in Dushanbe is more than twice the one in GBAO. The fair salary can be used as a benchmark for any wage reform. Clearly, the wage bill needed to satisfy the health workforce is prohibitive for the government. At the national level, the fair salary is 7.7 times higher than the actual salary received whereas the fiscal space available within the budget is 50 percent as shown by Table 4.16. Doctors and administrators are the ones who considered themselves farthest from their fair wage. For all categories of staff, rural workers have a stronger feeling of unfairness.

Table 4.16: Distribution of Fair to Actual Salary Ratio

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
Doctor	6.6	8	10.8	10.1	6.4	8.6	9.8	8.9
Nurse	4.4	7.4	5.5	7.4	6.6	5.8	7.1	6.2
Technicians	3	8.4	7.2	9.6	5	5.6	9.1	5.9
Administrative	5.1	8.1	5.8	16	7.5	8	8.7	8.2
Hosp. Attend.	1.3	7.9	5.1	7.5	7.5	5.8	6.3	6
All	5.5	7.8	7.9	9.7	6.5	7.4	8.2	7.7

Source: Tajikistan Health PETS 2006

4.32 ***Perceptions of unfairness may induce the health workers to adopt coping mechanisms to fill the gap between their fair and actual wages.*** Many coping mechanisms have been identified in the literature and include inter alia (1) shirking or moonlighting, and (2) informal charges, which are analyzed here.

Secondary Job or Moonlighting

4.33 ***Around 17.6 percent of the health workers admit that they work outside the facility to supplement their low income.*** The highest rate of moonlighting is observed in the RRS, with 35 percent, which also have the lowest average salary. Dushanbe where the average health worker earns more than twice the average wage comes in third place following Sogd. This probably reflects the better outside opportunities offered in the capital city. Although, GBAO's health workers have the second-lowest wages, only 3.3 percent of them provide labor for pay outside their facility. There is also a significant gender gap since male workers are 25.4 percent more likely to supplement their income by working elsewhere. The same holds for administrators and doctors when compared to other staff members.

Table 4.17: Proportion Supplement Income with Outside Activities

	Staff Type					Gender		
	Doctors	Nurses/Fe	Technician	Admin.	Hosp. Att	Male	Female	All
Dushanbe	20.7	20.5	0	25.8	0	29.9	16.1	19.6
Sogd	29.2	17	39.8	20.8	6.1	37.6	11.4	21.6
Khatlon	8.7	4.7	0	21.5	5.3	15.8	3.8	8.1
RRS	34.6	37.7	0	67.5	6	56.7	25	35
GBAO	9.8	0.4	0	0	0	11.5	0.9	3.3
Urban	16.5	10.7	10.1	27.5	1.8	26.3	8.9	14.6
Rural	34.6	21	1.7	20.7	8.4	39.6	14.2	22.8
Tajikistan	21.2	15.5	8.8	24.9	5	31.3	10.8	17.6

Source: Tajikistan Health PETS 2006

4.34 ***What kind of labor are moonlighters more likely to perform?*** Table 4.18 shows the different activities health workers engage in and the intensity of that labor in terms of hours supplied each week. The most common activity is the holding of an agricultural job with 54.8 percent, followed by the private provision of care. In Dushanbe, 66.6 percent of moonlighters provide care for their private benefit. Some of the health workers are employed by other private (4.2 percent) or another public (6.7 percent) provider. On average, the health workers provide 20 hours per weeks for outside activities.

Table 4.18: Proportion by Type of Activities Performed

	Agr. Job	Work private provider	Provides care	Drugs sale	Work public provider	Any other	Hours per Week
Dushanbe	11.9	9.9	66.6	0	2.6	33.1	13.7
Sogd	59.4	1.7	23.6	0.8	14.5	19.6	24.8
Khatlon	47.7	8	19.7	2.7	0.7	35.8	19.7
RRS	65.5	3	26.1	1.8	3.6	14.6	18.4
GBAO	3.7	18.5	27.9	0	0	53.6	4.5
Urban	50	4.2	30.1	0	3.5	28.6	18.1
Rural	60.1	4.2	25.3	3	10.1	14.3	22
Tajikistan	54.8	4.2	27.8	1.4	6.7	21.8	20

Source: Tajikistan Health PETS.

Charging Patients for Treatment

4.35 ***Though basic health care is supposedly free in Tajikistan, it is common knowledge in the country that care seekers expect to incur costs when in the facility's premises***. There is also supporting evidence from the last household survey that informal charges are pervasive in the country (see Falkingham, 2004). This section looks at the prevalence and level of informal charges in the sector from the perspective of the health workers. Although, they should be expected to be reluctant to answer questions about informal charges, the health workers have been surprisingly open-minded and willing to discuss this sensitive issue during the survey.

4.36 ***Health workers have been asking during the survey about additional sources of income within the facility, besides their regular wage.*** Table 4.19 summarizes the answers. The most common source of additional income for the health workers is clearly gifts, in cash and in-kind, from the patients. Almost half (45.7 percent) of the staff admits receiving informal payments, which are also the most important income source in terms of the amounts levied. The average health worker is able to extract as much as 27.8 somonis per month from patients, with 25 percent of them receiving 30 or more somonis. Bonuses which are offered for work performance come second far after informal payments. Only 27 percent of the workers receive bonus payments which average around 8.6 somonis on a monthly basis. All other sources of income are received by less than 7 percent of the staff and barely average one somonis.

Table 4.19: Other Monthly Revenues (in Somonis)

	% Received	Mean	S.D.	Median	75th	Max
Subsidies for missions	6.6	8.2	44.6	0	0	650
Performance Bonuses	**27**	**8.6**	**28.7**	**0**	**3**	**400**
Gifts from facility	6.9	1.2	5.9	0	0	200
Gifts from patients	**45.7**	**27.8**	**71.7**	**0**	**30**	**950**
Subsidies from NGO	1.4	0.6	5.5	0	0	130
Subsidies from donors	1.4	0.7	7.6	0	0	338
Subsidies from community	0.8	0.4	9.2	0	0	380

Source: Tajikistan Health PETS 2006

4.37 ***Table 4.20 focuses on informal payments. The prevalence of informal charges varies widely across oblast, from a low 7.7 percent in GBAO to as much as 71.5 percent in Dushanbe***. Health workers in Dushanbe charge patients not only more frequently but also more heavily. Indeed, the extract as much as 93.5 somonis on average per month, more than 3 times the national average. This might reflect the higher income in Dushanbe, but also higher demand and willingness to cut waiting times, more analysis using, for example, exit polls could shed more

light on this issue. Virtually only doctors engage in informal charges in GBAO, however, they charge a little over 25 somonis a month.

Table 4.20: Informal Payments Prevalence and Intensity

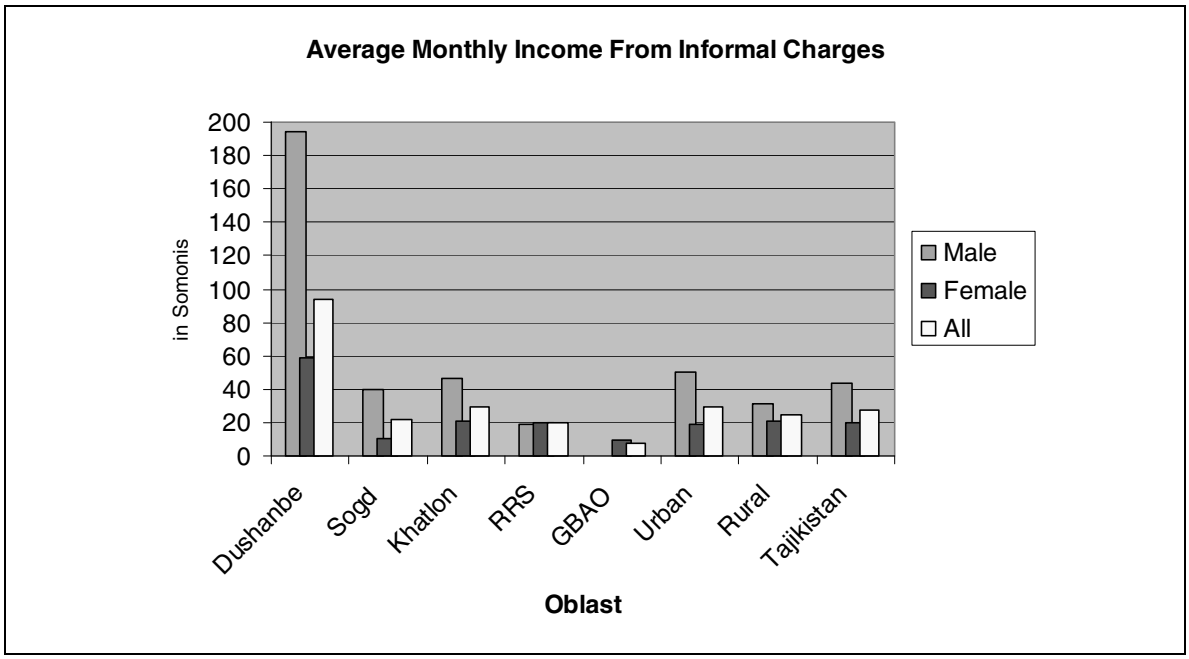
	Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
Prevalence (%)	71.5	43.6	53.1	52.3	7.7	41.8	52.3	45.7
Intensity: Monthly Informal Charges (in Somonis)								
Doctor	123.9	28	46.3	25.4	25.2	42.7	43.1	42.8
Nurse/Feldsher	61.8	11.9	23.4	23.1	0.9	19.9	20.6	20.3
Technician	146.5	108.5	31.4	0	0	59.7	27.9	54.1
Administrator	41.1	26.5	20.6	5.8	0	17.4	17.4	17.4
Hosp. Att	0	2.1	6.2	2.1	0	2.7	5	3.7
Male	194.6	40.2	46.1	18.5	0	50.7	31.7	43.6
Female	58.7	10.1	21.1	20.3	9.8	19.3	21	19.9
Total	**93.5**	**22**	**29.6**	**19.8**	**7.3**	**29.7**	**24.6**	**27.8**

Source: Tajikistan Health PETS 2006

4.38 ***One expects the frequency of contact with the patients and the level of responsibilities in the health facility to be positively correlated with informal charges.*** Indeed, hospital attendants for instance who do not provide services are probably the least able to extract money form patients, whereas doctors who can refuse to see the patients or oblige them to sustain long waiting times have more power for doing so. This is confirmed by Table 4.20 which shows that technicians and doctors charge more than the other categories of staff. Hospital attendants seem to have almost no extortion powers, they fare best in Khatlon with an average 6.2 somonis a month and do not have access to this income source in Dushanbe and GBAO. On average each health worker supplements his income with 27.8 somonis a month from direct charges on the patients. This provides an interesting estimate of the aggregate cost of informal payments. This estimate must, however, be contrasted with estimates obtained using household surveys which are the most common data used for informal payments.

4.39 ***There seems to be quite an important gender gap for informal charging***. Although men and women are equally likely to charge patients, with 47.4 percent and 44.8 percent respectively, men charge much more aggressively than women. A male health worker levies on average 43.6 somonis a month, i.e. more than twice the average woman who charges 19.9 somonis. Regional disparities are even starker as shown in Figure 4.5. Male workers make in Dushanbe a huge 194.6 somonis a month, which is more than four times the national average salary. GBAO and the RRS, where women charge more (though not significantly in RRS) are the exception to the rule.

Figure 4.5: Gender Differences in Informal Payments



Source: Tajikistan Health PETS

4.40 Before proceeding to a more elaborate analysis of the likelihood and intensity of informal charges, it is interesting to gauge the perceptions of the staff about the normalcy of patients' payment for care.

Table 4.21: Proportion Considers Patients Should Pay For Treatment

	Staff Type					Gender		
	Doctors	Nurses/Fe	Technician	Admin.	Hosp. Att	Male	Female	**All**
Dushanbe	54	24.4	67.8	25.8	54.7	51	38	**41.3**
Sogd	57.3	39.2	9.2	33	14.3	52.7	34.5	**41.6**
Khatlon	33.6	10.8	0	9.4	3	27.3	12.1	**17.6**
RRS	54.5	45.1	100	16.8	0.6	31	46.1	**41.3**
GBAO	36.1	28	3.3	5.3	23.9	37.5	19	**23.1**
Urban	44.2	22.1	9.3	19.6	4.1	39.4	24.3	**29.3**
Rural	53.5	37.5	26.7	18.1	10.2	37.1	35	**35.7**
Tajikistan	46.6	29.2	12	19	7	38.5	28.2	**31.7**

Source: Tajikistan Health PETS 2006

4.41 ***Health workers may for instance perceive user-fees as an income for the facility which can then be redistributed as salaries and bonuses.*** The responses to the question "do you think patients should pay for the health care services that are provided to them?" are summarized in Table 4.21. Doctors and nurses i.e. care-givers are most likely to agree with that statement, with a stronger adherence from doctors with 46.6 percent vs. 29.2 percent for the nurses. Men are more likely to agree than women, and health workers in rural areas think more often that patients should pay than their urban colleagues. Except in Dushanbe, hospital attendants mostly think health services should be free of charge.

Table 4.22: Fair Price Patients by Ailment
(in Somoni)

	% Free	Mean	S.D.	Min	Median	75th	Max
Immunizations	15	1.7	3.1	0	1	2	30
Family Planning	12.6	5	7.9	0	3	5	80
Flu/Cold	5.2	10.1	14.4	0	5	10	150
Deliveries	3.5	33.6	31.7	0	25	50	240
Pediatric care	6.9	16.7	26.8	0	10	20	200
First degree burn	8.8	18.9	36	0	10	20	300

Source: Tajikistan Health PETS 2006

4.42 ***Even among those who think that as a matter of principle patients should be charged for health care, some treatments may still be offered for free according to them.*** For instance 15 percent still consider that immunization should be delivered for free vs. 12.6 percent fro family planning. Only 3.5 percent consider that deliveries should be done for free. Moreover, the price tag for deliveries is the highest with an average of 33.6 somonis.

4.43 ***Finally, the results for the determinants of informal charges are provided in Table 4.23***. The left panel of Table 4.23 gives the marginal probability of inducing or forcing patients to pay for care. The results from the descriptive analysis are mostly confirmed. Doctors and nurses are most likely to charge patients, the long the worker has served in the health sector the more likely he is to charge with every ten years increase the likelihood by 2 percent. The negative impact of experience is partly offset by the positive impact of age. Health workers who consider that patients should pay for care are 13.3 percent more likely to charge them. Furthermore, the farther their fair salary is from their actual salary the more likely they will charge. GBAO again stands out as the oblast with the lowest prevalence of informal charges, with workers being 54.8 percent less likely to charge than in Dushanbe, Khatlon, or the RRS, and 31.6 percent than workers in Sogd. The tobit coefficients are almost all very strongly significant and show that with that many control variables, doctors would charge 24 more somonis than nurses, 35 more than administrators and 74 more than all other workers. For otherwise identical workers, those who think that patients should pay would charge 25.2 more somonis.

Table 4.23: Determinants of Informal Charges

	Probit Marginal Effects			Tobit Regressions		
	(1)	(2)	(3)	(4)	(5)	(6)
Sogd	-0.212***	-0.232***	-0.232***	-95.72***	-98.34***	-97.12***
	(0.08)	(0.07)	(0.07)	(14.42)	(14.40)	(14.56)
Khatlon	-0.039	0.001	0.006	-62.89***	-53.99***	-52.41***
	(0.05)	(0.05)	(0.05)	(14.03)	(14.10)	(14.25)
RRS	-0.112	-0.099	-0.097	-85.57***	-81.48***	-79.87***
	(0.08)	(0.08)	(0.08)	(15.05)	(15.00)	(15.16)
GBAO	-0.548***	-0.549***	-0.548***	-250.36***	-254.78***	-252.30***
	(0.03)	(0.03)	(0.03)	(28.87)	(29.50)	(29.57)
Female	-0.055	-0.047	-0.034	-29.02***	-26.15***	-24.58***
	(0.06)	(0.06)	(0.06)	(8.30)	(8.33)	(8.43)
Age	-0.017***	-0.015***	-0.015***	-3.65***	-3.20***	-3.18***
	(0.00)	(0.00)	(0.00)	-0.74	-0.75	-0.75
Experience	0.002***	0.002***	0.002***	0.39***	0.36***	0.35***
	(0.00)	(0.00)	(0.00)	(0.10)	(0.10)	(0.10)
Exp. squared	-0.000**	-0.000**	-0.000*	-0.0003*	-0.0003*	-0.0003*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Doctors	0.405***	0.378***	0.370***	83.96***	76.04***	74.14***
	(0.05)	(0.06)	(0.06)	(14.67)	(14.67)	(14.86)
Nurses/Feldshers	0.365***	0.354***	0.353***	53.97***	50.21***	49.82***
	(0.06)	(0.06)	(0.06)	(13.61)	(13.53)	(13.55)
Administrative	0.220***	0.205***	0.204***	45.63***	40.81***	39.97***
	(0.05)	(0.05)	(0.05)	(15.17)	(15.12)	(15.18)
Pay		0.141***	0.133***		25.65***	25.16***
		(0.04)	(0.05)		(7.74)	(7.77)
Dissatisfied		-0.036	-0.039		2.27	2
		(0.05)	(0.05)		(10.14)	(10.14)
Ready to leave		0.053	0.048		14.84**	14.56**
		(0.04)	(0.04)		(7.25)	(7.26)
Full Salary			0			0.04
			(0.00)			(0.11)
Fair/Full Sal Rat			0.004*			0.32
			(0.00)			(0.25)
Constant				117.17***	85.45***	78.86**
				(31.65)	(32.63)	(33.36)
Observations	1195	1195	1195	1195	1195	1195
Pseudo R-squared	0.2	0.21	0.21			
Log Likelihood	-664.68	-655.63	-652.12			

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Staff Absenteeism and Morale

4.44 ***In the survey, the head of the facility was asked for each staff member whether she was on the premises and if not the reason for the staff absence.*** Table 4.24 gives the percentage of staff not present on the premises at the time of the survey. Only facilities for which the whole roster is available have been included (space restriction prevent the team from collecting full rosters for facilities with 28 or more employees). Therefore Dushanbe and the CRH are not represented in Table 4.24.

Table 4.24: percent Staff Absent (Facilities with 27 or less Employees)

	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
Other Hospital	24.4	23.1	.	54.5	27.3	.	27.3
Polyclinic	.	9.1	72.2	16.7	12.8	72.2	38.3
SUB	42.5	40.4	56.6	48.8	.	46.4	46.4
SVA	41.8	30.7	37.9	10	.	35	35
Medical House	31.3	27.7	21.1	26.6	.	26.6	26.6
Other	27.8	6.2	60	80	29	41.4	34.9
All	**34.1**	**28.1**	**29.1**	**29.7**	**25.8**	**30.2**	**30**

Source: Tajikistan Health PETS 2006

4.45 ***Of the original 317 facilities for which data is available, 242 facilities have their roster fully recorded in the survey.*** Around 30 percent of the personnel is not present at the time of the survey. The highest rates of absent are noted in the SUBs and the polyclinics with respectively 46.4 and 38.3 percent of their staff that are absent. At the level of the oblast, Sogd presents the highest rate of absenteeism with 34.1 percent, whereas Khatlon, RRS and GBAO are all around 29 percent. However, 72.2 percent of the health workers in the RRS polyclinics are not performing their duties at the time of the survey. These rates of absenteeism are in line or somewhat lower with finding from absenteeism surveys in other countries (see Chaudhury et al., 2005).

Table 4.25: percent Absent Staff by Type of Staff[32]

	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Total
Doctors	27.5	20.6	26.7	29.8	15.8	28.2	**25**
Nurses/Feldhsers	31.2	27.3	35.4	35	22.6	32.3	**31.3**
Other Med.	54.7	34.3	42.7	42.4	24	44.8	**41.9**
Administrator	54	28.9	42.3	33.7	17.6	44.1	**38.2**
Male	37.5	25.4	31.9	40.8	17.8	34	**30.9**
Female	37.1	29.6	37.6	35.5	21.6	36.3	**34.4**
All	**37.2**	**28.2**	**35.9**	**36.3**	**20.2**	**35.7**	**33.4**

Source: Tajikistan Health PETS 2006

4.46 ***Looking at absenteeism by category and gender of staff also provides interesting results***. Doctors are less likely to be absent, across the board. However, doctors in rural areas are less often on the premises with 28.2 percent of them not present vs. 15.8 percent for doctors in urban areas. In Dushanbe, more than half of the administrative staff and medical personnel other than doctors and nurses are not in the facility. Women are also more likely to be absent.

[32] The difference at the national or oblast level comes from assigning the same weights –equal to facility weights - to different categories of staff that are not present in the facility in equal proportions. Reweighing the personnel would not change much the results.

Table 4.26: Reason for Absence

	Sogd	Khatlon	RRS	GBAO	Male	Female	All
Sick leave	14	15.1	4.5	6.4	10.2	10.7	**10.6**
Training	2.4	6	1	7.3	6.7	2.3	**3.5**
Official mission	4.6	7.3	4.8	0	4.8	5.2	**5.1**
Approved absence	37	35	39.1	14.5	31.4	36.5	**35.1**
Annual leave	15.2	9.7	17.9	13.6	8.8	16.3	**14.2**
Not his/her shift	8.9	6.8	6.1	13.2	6.3	8.3	**7.7**
Not approved absence	14.3	17.1	24.8	38.5	29	17.5	**20.7**
Gone for salary	0	1.4	0	0	0	0.6	**0.5**
Other	3.7	1.5	1.8	6.4	2.9	2.5	**2.6**

Source: Tajikistan Health PETS 2006

4.47 ***The personnel may be absent for several reasons some legitimate.*** Table 4.26 shows the answers of the head of facility when asked the reason for the staff's absence. It is notable that only 20.7 percent of the absent staff seems to be absent without approval. About half of the absent personnel, 49.3 percent, is on leave or has seemingly received prior approval from the facility's manager. It is in GBAO that the recognition of non-approved absence is the highest. Although women are more likely to be absent than men; absent men leave more often without approval 29 percent against 17.5 percent for women. A more complete analysis of absenteeism is provided in Table 5.27.

Table 4.27: Determinants of Absenteeism: Marginal Effects of Probit Regression

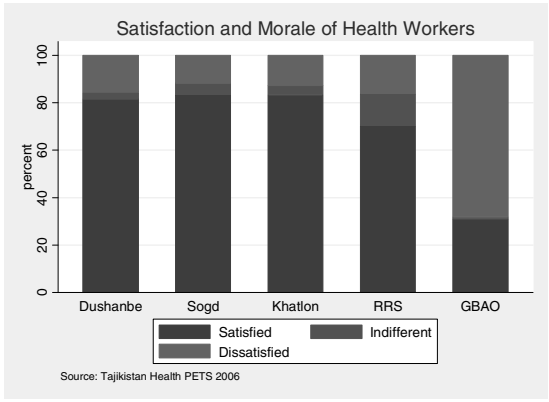
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rural	0.150***	0.142***	0.287***	0.280***	0.297***	0.313***	0.313***	0.313***
	(0.029)	(0.030)	(0.058)	(0.059)	(0.056)	(0.053)	(0.053)	(0.053)
Khatlon		-0.076**	-0.077***	-0.077***	-0.085***	-0.073**	-0.070**	-0.070**
		(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
RRS		-0.009	-0.027	-0.025	-0.033	-0.026	-0.022	-0.022
		(0.035)	(0.035)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
GBAO		0.012	-0.002	-0.012	-0.007	-0.045	-0.009	-0.009
		(0.050)	(0.052)	(0.052)	(0.052)	(0.050)	(0.053)	(0.053)
SUB			-0.107	-0.097	-0.140*	-0.152**	-0.167**	-0.167**
			(0.081)	(0.083)	(0.079)	(0.077)	(0.075)	(0.075)
SVA			-0.195***	-0.193**	-0.214***	-0.266***	-0.267***	-0.267***
			(0.075)	(0.075)	(0.074)	(0.072)	(0.072)	(0.072)
Medical house			-0.224***	-0.226***	-0.271***	-0.334***	-0.331***	-0.331***
			(0.075)	(0.075)	(0.072)	(0.067)	(0.067)	(0.067)
Staff size			0	0	0	-0.003	-0.002	-0.002
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Female				0.047*	-0.02	-0.037	-0.049	-0.049
				(0.027)	(0.032)	(0.033)	(0.033)	(0.033)
Nurses/Feldshers					0.112***	0.124***	0.073*	0.073*
					(0.042)	(0.042)	(0.044)	(0.044)
Oth. medical staff					0.249***	0.222***	0.140**	0.140**
					(0.052)	(0.052)	(0.055)	(0.055)
Administrative					0.142**	0.104*	0.021	0.021
					(0.057)	(0.057)	(0.056)	(0.056)
Number of stavkas						**-0.195*** **	**-0.077***	**-0.077***
						(0.035)	(0.043)	(0.043)
Full salary							**-0.005*** **	**-0.005*** **
							(0.001)	(0.001)
Observations	1496	1496	1496	1496	1495	1495	1495	1495
Pseudo R-squared	0.01	0.02	0.03	0.03	0.04	0.06	0.07	0.07
Log Likelihood	-945.84	-941.3	-932.11	-930.62	-916.5	-900.22	-888.96	-888.96

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

4.48 ***The analysis is still restricted to facilities with 27 or less employees.*** Column (1) shows the raw difference of average absence rates between urban and rural areas. The difference increases even more when more controls are added in the regression. With controls for facility and staff characteristics, a rural health worker is 31.3 percent more likely to be absent than her urban counterpart. Health workers in Khatlon are 7 percent less likely to be absent than workers in RRS, Sogd, and GBAO. Absenteeism rates are lower for medical houses, SVAs, and SUBs when compared to small polyclinics and other facilities. Interestingly, higher salaries and more stavkas reduce substantially the likelihood of absence.

4.49 ***Another variable that might influence informal charges behavior is the morale of the health workers.*** The staff members were asked how satisfied they were in their current job and whether they were ready to leave for another facility if offered the opportunity.

Figure 4.6: Satisfaction and Willingness to Leave



4.50 ***Surprisingly (given fair salary levels, low informal charges, and high own spending) GBAO's health workers are the most dissatisfied with more than 65 percent stating so.*** Moreover, 86.9 percent of health workers in GBAO say they would seize the opportunity to leave for another facility against 55.3 percent as a national average. In Dushanbe, all of the administrators declare that they would be ready to leave immediately.

Figure 4.7: Reasons Motivating Leave Desire

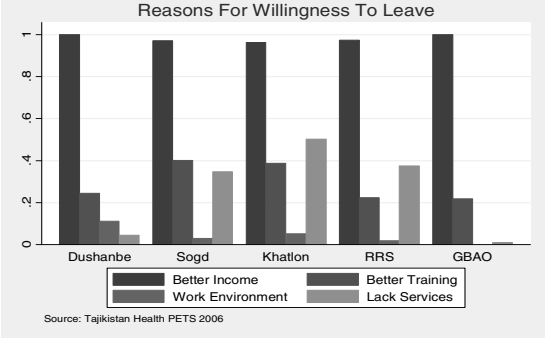


Table 4.28: percent Willing to Leave

	Urban	Rural	Male	Female	Total
Dushanbe	66.6	.	75.6	63.6	66.6
Sogd	58	42	49.4	52.6	51.3
Khatlon	48.7	46.8	50.1	46.9	48.1
RRS	43.3	49.5	63.2	39.4	46.9
GBAO	85.3	93.2	86.4	87.1	86.9
Tajikistan	58.6	49.7	57.2	54.4	55.3

Source: Tajikistan Health PETS 2006

4.51 ***Access to better income opportunities made a near consensus as an important reason that motivates the desire to leave for another facility.*** Lack of adequate services is invoked in RRS and Khatlon, whereas in GBAO the desire to access more training opportunities seems important. It is in Dushanbe only that more than 10 percent of the health workers say they don't like their working environment.

E. OTHER STAFF QUALITY MEASURES

4.52 ***In addition to the education level, staff quality should be maintained and enhanced through continuous training programs***. Doctors and nurses can for instance receive training in new methods of care or new illnesses. Table 4.29 shows that almost half, 47.3 percent, of the health workers have attended at least one training program. Not surprisingly, doctors and nurses are the most concerned about these programs, with 61.4 percent and 58.3 percent respectively who received some form of training in 2005. The GBAO oblast displays the lowest rate of training with only 37 percent of doctors and nurses trained in 2005. Interestingly, rural doctors are more likely to have attended a training session than their urban counterparts, 72.6 percent vs. 57.4 percent.

Table 4.29: Percentage of Staff Attended Training in 2005

	Doctors	Nurses/Fe	Technician	Administr	Hosp. Att	All
Dushanbe	67.5	39.5	0	25.8	0	**50.1**
Sogd	66.9	55	16	11.5	0	**47.3**
Khatlon	71.5	69.9	34	23.8	3.3	**55.7**
RRS	53	65.8	0	25.7	0	**47.6**
GBAO	37.6	37.3	0	14.2	0	**25.8**
Urban	57.4	59.7	5.5	6.9	0	**45**
Rural	72.6	56.6	30.3	35.1	3.1	**51.3**
Tajikistan	61.4	58.3	9.3	18	1.5	**47.3**

Source: Tajikistan Health PETS 2006

4.53 ***Figure 4.8 shows the topics in which the health workers have been trained***. The distribution across oblasts is shown in Table A5 in the annexes. The lower bars are the average considering all health workers, whereas the tall bars considers training topics conditional on having attended at least one training program. Clearly the most popular topics are HIV/AIDS, child and maternal care, and immunization and the management of the cold chain. Family medicine with occupies a central role in the upcoming long-term health strategy falls fairly behind on the list.

4.54 ***According to the staff, 65.6 percent of the trainings have been funded externally either by donors or NGOs.*** They are even more present in rural areas where they financed 73.7 percent of the staff's training. The Republican government or oblast hukumats are credited with funding only 7.7 percent of the trainings, although they peak in GBAO with 34.6 percent. The CRH finances about 9.3 percent of all training. In the rural areas

Figure 4.8: Staff Training Topics

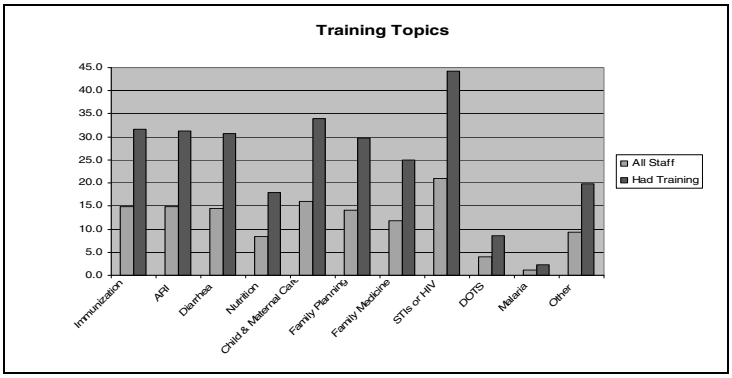


Table 4.30: Main Financiers of Training Programs

	MoH/Oblast	CRH	Donor	NGO	Other	DK
Dushanbe	24.1	0	19.1	7.7	27.9	21.2
Sogd	8.3	13.9	61.4	7.7	5.7	2.9
Khatlon	2.1	4.1	55.5	17.3	1.4	19.5
RRS	1.1	19.3	62.3	1.6	1.6	14.1
GBAO	34.6	0	22.6	42.7	0	0
Urban	11.1	5.9	47.8	12.6	7.5	15.1
Rural	2.7	14.5	61.5	12.2	0.5	8.6
Total	**7.7**	**9.3**	**53.2**	**12.4**	**4.7**	**12.5**

Source: Tajikistan Health PETS 2006

4.55 ***Although health workers often engage in informal charges, and many think that patients should pay for the care they receive, they display a high degree of altruism.*** Indeed, around ¾ of the health workers say they chose that sector because of their desire to help others. Half of the remaining quarter based their choice on their belief that it offered good employment or income opportunities. For the remaining half either the choice was not made consciously or it involved family decision.

Table 4.31: Reasons decide to become health worker

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Male	Female	Total
Good opportunities	0	6.8	18	16.6	13.7	16.7	10.7	12.7
Desire to help people	84.7	76.8	75	66.2	79.2	74.9	75	75
Not a conscious choice	9.2	16	4.5	9.8	7.1	7	10.7	9.5
Family Related	6.2	0.5	2.5	7.4	0	1.4	3.7	2.9
Spent own money								

Source: Tajikistan Health PETS 2006

4.56 ***Finally the altruism of the health workers is apparent in their financing of others' health needs with their own money.*** The RRS and Dushanbe show the lowest degree of

generosity with only 49 percent and 55.2 percent of employees who state they financially covered others' needs. Health workers in GBAO are more likely to spend their own money to provide care with an average of 68.7 percent of staff members who did so. A high proportion of doctors, 71.7 percent, who are also the wealthiest, did provide care with their own money, with a peak in GBAO where 93.8 percent of doctors opened their purse.

Table 4.32: Percentage Spend Own Money to Provide Care

	Doctors	Nr/Fld	Tech.	Admin.	Hosp. Att	Male	Female	Total
Dushanbe	61.7	47	100	48.8	0	63.9	52.2	55.2
Sogd	73.6	61.3	69.8	67.7	91.6	76.2	62.4	67.8
Khatlon	81.1	66.2	71.5	44.9	56.8	70.1	66.7	67.9
RRS	52.3	56.9	100	31.1	27.5	42.6	51.9	49
GBAO	93.8	61.3	51.7	51.8	59.5	58.9	71.5	68.7
Urban	73.3	54.8	60.8	43.7	46.9	66.7	58.3	61.1
Rural	67	67.9	83	65.9	57.9	62.9	68.4	66.5
Tajikistan	71.7	60.8	64.2	52.4	52.1	65.3	62	63.1

Source: Tajikistan Health PETS 2006

5. MANAGEMENT OF OTHER INPUTS AND SERVICE OUTPUTS

5.1 ***This chapter examines the findings of the Public Expenditure Tracking Survey (PETS) including the characteristics of health facilities; the resources available at the facility level, other than human resources; and some health services provided by facilities.*** These findings are based on responses to the facility questionnaires. The chapter also presents findings from the immunization survey, which is one of the services delivered by primary health care facilities. This chapter does not discuss issues regarding human resources as an in depth analysis is discussed separately in the previous Chapter.

5.2 ***Primary care was the principal focus of the PETS.*** Over 70 percent of the facilities surveyed in the PETS were mainly primary care facilities (polyclinics, SVA, and medical house). Table 5.1 presents the distribution of facilities in the PETS sample. Medical houses, which are the lowest level of health care facilities, accounted for more than one-half of the PETS sample (53 percent). Rural facilities in the sample accounted for about 87 percent of total facilities sampled in rural areas.

Table 5.1: Distribution of Health Facilities by Type and by Urban and Rural

	Oblast					Urban/Rural		
Type	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural	Total
CRH	0	8	11	6	3	18	10	28
Other Hos	4	4	8	0	6	21	1	22
Polyclini	6	4	4	2	2	15	3	18
SUB	0	10	10	5	2	2	25	27
SVA	0	17	26	14	2	0	59	59
Medical H	0	41	65	35	15	0	156	156
Other	0	3	2	1	1	4	3	7
Total	10	87	126	63	31	60	257	317

Source: Tajikistan Health PETS 2006

The information about health facilities derives from the health facility questionnaires included the following: inputs received from government sources; inputs received from external sources; and service delivery. The main focus of the questionnaire was to assess the extent of resources available at the facility level. However, data captured from the questionnaires did not provide adequate information regarding allocations of budgetary expenditures at facilities given that most primary care facilities do not prepare budgets or receive cash funds. The questionnaires tried to overcome these limitations by using numerous questions to triangulate the data and it required the interviewee to assess the level of support received from government and external sources

A. CHARACTERISTICS OF THE FACILITIES

5.3 ***The findings on target populations of the health facilities shown in Table 5.2 were as expected***. Urban facilities had significantly larger target populations. When analyzed by region, Dushanbe, the capital city, and Khatlon had the largest target populations, while RRS had the lowest regional average target population in the country. Rural health facilities (medical houses,

SVA, and SUB) in GBAO had significantly smaller target populations than those types of facilities in other regions given the highly dispersed population in GBAO.

Table 5.2: Target Population of Facilities by Type of Facility and Region

Type	Oblast					Urban/Rural		Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural	
CRH	.	118,110	105,530	135,629	92,463	135,098	76,510	114,174
Other Hos	470,000	60,600	1,527,312	.	201,508	743,840	203,155	718,093
Polyclini	81,990	84,225	679,811	43,477	82,393	239,425	69,481	211,101
SUB	.	10,073	11,280	13,650	4,723	6,096	11,161	10,786
SVA	.	4,026	3,863	5,864	900	.	4,284	4,284
Medical H	.	1,424	1,472	1,410	690	.	1,370	1,370
Other		20,233	2,400,000	90,000	199,860	1,252,890	46,333	735,794
Total	211,327	20,832	168,314	18,896	60,409	439,385	8,021	88,560

Source: Tajikistan Health PETS 2006

5.4 ***Hospital Beds***. About 32 percent of the facilities (102) in the PETS had hospital beds. When analyzed by type of facilities, 100 percent of Central Rayon Hospitals (CRH), other hospitals, and SUB had beds while only 32 percent of SVA, 22 percent of polyclinics, and only 1 medical house reported having beds in their facility. Most CRH and other hospitals are urban facilities and three out of four urban facilities had beds, while only 1 out of 4 rural facilities had beds. Dushanbe and GBAO had the highest percentage of facilities with beds, 50 percent and 39 percent respectively, while RRS had the lowest percentage of facilities with beds at 19 percent. However, the differences across regions could be a product of the sampling – Dushanbe and GBAO had the lowest number of facilities per region in the sample. It should be also noted that health facilities of Dushanbe and Khorog, an administrative center of GBAO which is accountable for one third of GBAO sample, are characterized by a significant share of large republican and oblast level hospitals.

5.5 ***The average number of beds per facilities in the PETS sample was 107 beds per facility.*** Of the facilities with beds, Central Rayon Hospitals had the highest number of beds per facility (297) while other hospitals had on average 65 beds per facility and SUB had 37. GBAO not only had the lowest percentage of facilities with beds but had the lowest average number of beds per facility because they had fewer number of CRHs, other hospitals and polyclinics, but had a higher number of primary health care facilities (rural health points, medical houses, etc) that cater for more sparse population areas. Regionally, the average number of beds in GBAO was significantly lower than Sogd and RRS, which had the highest number of beds per facility (121). In the early 1990s, the government made a determined effort to reduce the number of hospital beds, which was reduced from 10.8 per 1,000 in 1992 to 6.3 per 1,000 in 2002[33]. However, the PETS data was not able to corroborate the administrative data on beds per capita because of limitations with the analysis of the PETS data. The PETS reported an average of less than a bed per capita, which is too very low and consequently not representative of the beds per capita in Tajikistan.

[33] World Bank. 2005. Republic of Tajikistan Health Sector Note.

Table 5.3: Average Beds per Facility by Type of Facility and Region (only for facilities that had beds)

Type	Oblast					Urban/Rural	
	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural
CRH	.	383.1	298.9	210.3	233	370.8	163.9
Other Hos	111.5	46.3	67.5	.	42	64.9	60
Polyclini	16	10	20	.	8	13.5	.
SUB	.	44	37	35	12.5	25	38.4
SVA	.	5.4	4	5	.	.	4.6
Medical H	.	1	.	.	.	.	1
Other	.	.	20	.	.	20	.
Total	92.4	120.6	102	120.2	82	177.4	49.1

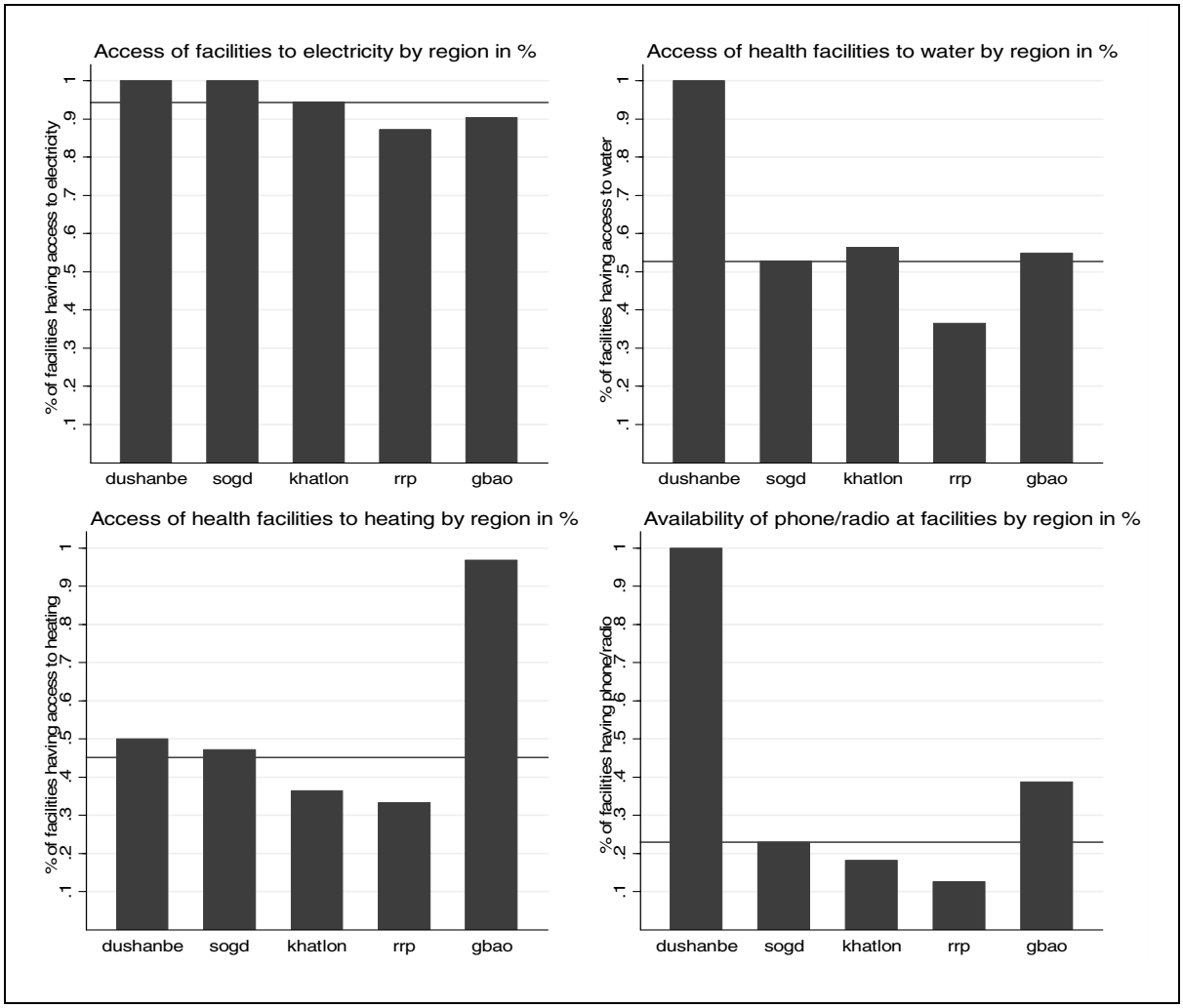
Source: Tajikistan Health PETS 2006

5.6 ***Renovation. Rayons are the major financier of the renovation of urban facilities, while international donors are the financier of renovation of rural facilities***. Just over half (53 percent) of the facilities in the PETS sample have been renovated at some point. Over 75 percent of the urban facilities in the survey have been renovated, compared to 50 percent of the rural facilities. Overall, the main financers of the renovation were international donors (40 percent), Rayons (21 percent), and Jamoats (14 percent). In urban areas, renovations were mainly financed by the Rayons (40 percent) and international donors (20 percent), while in the rural areas, renovations were mostly financed by international donors (46 percent) and Jamoats (18 percent).

5.7 ***Basic Infrastructure. Many health facilities, particularly rural primary health care facilities, do not have the basic infrastructure necessary to provide health services.*** The PETS survey assessed basic infrastructure of facilities by asking questions regarding access to electricity, heating, water, and means of communication. The survey shows that access to basic infrastructure by facilities varies greatly across regions. RRS health facilities have the lowest percentage of access to all types of utilities, while, as expected, Dushanbe facilities on average enjoy better access to the utilities compared to other regions (Figure 5.1). The following paragraphs present findings in detailed regarding basic infrastructure.

5.8 ***Access to electricity during the winter season was limited; however, urban facilities and hospitals had greater access to electricity than rural primary health care facilities***. Overall, 94 percent of the health facilities included in the PETS had electricity, except for some medical houses in Khatlon (11 percent), RRS (23 percent), and GBAO (20 percent). During the summer season, those facilities with electricity have access to it for the entire day. However, country-wide electricity shortages in the winter resulted in much spottier access. Access to electricity was significantly higher for urban facilities and hospitals than rural primary care facilities. As a rule, electricity outside major cities is supplied during the winter for a few hours in the morning and evening. Therefore, urban health facilities had electricity on average for 19 hours day and night during the winter season while rural facilities had access to 7 hours of electricity per day (table 5.4). If analyzed by type of facility, CRH and polyclinics (both of which are mostly urban facilities) had 20 hours of electricity per day in winter. Comparatively, primary care facilities such as SUB, SVA, and medical houses (mainly rural) had 8, 5, and 6 hours of electricity per day respectively.

Figure 5.1: Access to Basic Infrastructure by Region



Source: Tajikistan Health PETS 2006

5.9 ***Rural health facilities had electricity for only one-half of their operating hours in the winter***. The PETS reported that these rural facilities were open on average for 9 hours per day and, during daylight, these facilities had 3 to 4 hours of electricity per day. Thus, rural primary care facilities did not have electricity for at least half of the time that they were open. The only exception to this disparity in access to electricity was GBAO. It had fewer hours of electricity per day in CRH and hospitals than the other regions (around 16 hours) but it had more hours of electricity in SUB, SVA, and medical houses (over 9 hours) than the other regions. In fact, SVA and medical houses in GBAO had more hours of electricity (8 and 9 hours) in winter than the number of hours that they were open (8 hours), primarily attributed to the fact that GBAO has a standalone power generating and distribution system. Facilities in Khatlon had the least access to electricity during winter and rural facilities there had just 4 hours of electricity.

Table 5.4
Average Hours of Electricity during Winter Period by Type of Facility and Oblast

	Day	Night	Day & Night
CRH	10.25	10.04	20.29
Hospital	8.14	8.14	16.27
Polyclinic	9.72	9.89	19.61
SUB	3.89	3.81	7.70
SVA	2.51	2.51	5.02
MD	2.74	2.56	5.30
Other	10.00	10.00	20.00
PHC	3.44	3.35	6.79
Secondary	10.25	10.04	20.29
Tertiary	8.08	8.04	16.13
Dushanbe	12.00	12.00	24.00
Sogd	5.26	5.16	10.43
Khatlon	3.16	3.05	6.21
RRS	3.88	3.70	7.58
GBAO	5.61	5.68	11.29
Urban	9.47	9.55	19.02
Rural	3.21	3.06	6.27
Tajikistan	4.40	4.30	8.71

Source: Tajikistan Health PETS 2006

5.10 ***Access of health facilities to heating in the winter differed significantly among inpatient versus outpatient services and urban versus rural.*** Only 45 percent of the facilities in the PETS had access to heating during the winter. As expected, facilities that provided inpatient care (CRH, hospitals and SUB) had better access to heating (over 16 hours) compared to primary care facilities such as SVA and medical houses (6 hours). For those facilities with access to heating, the difference in the number of hours of heating among urban and rural facilities was also as pronounced as with electricity (table 5.5). Urban facilities had 18 hours of heating while rural facilities had 9 hours. Again the situation in GBAO was different because almost 100 percent of the facilities in GBAO had access to heating. Of the facilities surveyed in GBAO, only one medical house did not have heating. This could be attributed to the fact that weather conditions in GBAO are much more severe compared to most other parts of the country. At a PHC level, a strong correlation is observed between having longer time of heating and the size of facility. In fact, policlinics with this regard are 2 and roughly 3 times better off than SVAs and than MDs, respectively.

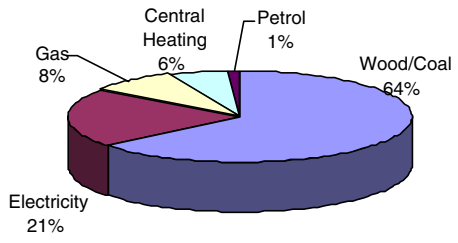
Table 5.5
Average Hours of Heating Available for Health Facilities during the Winter by Type of Facility

	All Facilities		
	Day	Night	Day & Night
CRH	8.0	7.8	15.7
Hospital	5.3	4.8	10.1
Polyclinic	3.5	2.9	6.4
SUB	5.7	5.4	11.1
SVA	2.4	1.1	3.5
MD	1.6	0.4	2.0
Other	7.6	6.9	14.4
PHC	2.5	1.3	3.8
Secondary	8.0	7.8	15.7
Tertiary	5.5	5.0	10.5
Dushanbe	6.7	6.7	13.3
Sogd	3.6	3.0	6.6
Khatlon	1.7	1.1	2.7
RRS	2.4	1.5	3.8
GBAO	8.1	4.1	12.2
Urban	6.0	6.1	12.1
Rural	2.5	1.3	3.8
Tajikistan	3.2	2.2	5.3

Source: Tajikistan Health PETS 2006

5.11 ***Wood/coal was the primary source of heating for health facilities***. Of those facilities with heating on average, 64 percent of facilities used coal or wood for heating, 21 percent and 6 percent of facilities reported using electricity and natural gas, respectively, for heating the premises and only 6 percent of facilities were connected to central heating (Figure 5.2).

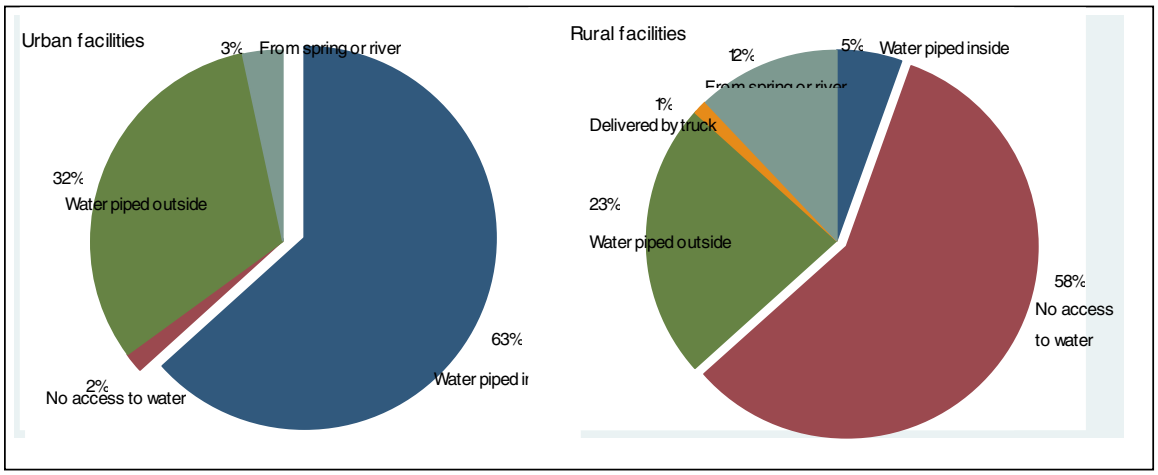
Figure 5.2: Type of Heating



5.12 ***Access to water is different among urban and rural facilities.*** On average, only 53 percent of the facilities in the PETS had access to water. By locality, all urban facilities had access to water, while only 42 percent of rural health facilities reported access to water (See Figure 5.3). By type of facility, the findings show that all urban and rural CRH and hospitals and polyclinics had access to water, while only 60 percent of the SUB, 46 percent of SVA, and 32 percent of medical houses had access to water. However, the number of facilities that had access

to piped water inside or outside the facility is even lower (only 41 percent of all facilities in the PETS).

Figure 5.3: Access to Water



Source: Tajikistan Health PETS 2006.

5.13 ***Table 5.6 presents the percentage of facilities that responded as having access to piped water either inside or outside the facility.*** Not all urban facilities had access to piped water. It is more worrisome; however, that less than 30 percent of rural facilities had access to piped water (37 percent of SVA and 17 percent of medical houses). Furthermore, only 4 SVA out of 59 and 1 medical house out of 156 reported to have piped water inside the facility.

Table 5.6: Access to Piped Water

	Oblast					Urban/Rural		
Type	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural	Total
CRH		88%	91%	83%	67%	94%	70%	86%
Other Hos	100%	100%	75%		100%	90%	100%	91%
Polyclini	100%	100%	75%	100%	100%	100%	67%	94%
SUB		70%	50%	40%	50%	100%	52%	56%
SVA		35%	42%	36%	0%		37%	37%
Medical H		20%	20%	14%	7%		17%	17%
Other		100%	100%	0%	100%	100%	67%	86%
Total	100%	45%	40%	30%	42%	95%	29%	41%

Source: Tajikistan Health PETS 2006.

5.14 Most urban health facilities had means of communication but only a few of the rural health facilities. The findings regarding means of communication are very similar to the access to other basic infrastructure. Only 23 percent of the facilities responded that they have access to a radio and/or telephone of which most of them are in urban areas. In urban areas, 85 percent of the facilities had a means of communication; which includes all of the facilities in Dushanbe, all urban CRH[34], and over 85 percent of urban hospitals and polyclinics. On the other hand, only 9 percent of rural health facilities had access to means of communications; no medical house and only 1 SVA and 8 SUB reported having access to a telephone or radio.

[34] The only CRH that did not have means of communication was a rural CRH in Khatlon.

5.15 ***The availability of vehicles (cars, ambulances, etc.) was even more limited***. Only 19 percent of the PETS facilities had access to a vehicle. Table 5.7 shows that all Central Rayon Hospitals in Sogd, Khatlon, and RRS had a vehicle. The exception was GBAO where only 67 percent of CRH had vehicles. However the SUB in Sodg (60 percent), Khatlon, and GBAO (50 percent) and only 20 percent of RRS had vehicles. The main uses of vehicles were transport (44 percent), outreach and supervision (17 percent), and collection of drugs and vaccines (13 percent). However, the main purpose for the utilization of the vehicle was highly related to the type of vehicle. Ambulances were the most common vehicle (57 percent of all vehicles) and those facilities with ambulances reported transportation of patients as the main purpose of use (74 percent) and supervision as the second most common use (18 percent). However, facilities with cars reported that outreach was the main purpose of use (37 percent) and collection of drugs and vaccines was the second most common use (30 percent). The lack of means of transportation raises concerns about the capacity and efficiency of facilities in carrying out routine yet critical tasks such as supervision and the transport of patients and health inputs (drugs, vaccines, etc.) as well as the undue burden related to payment for the cost of transport that places on health workers.

Table 5.7: Availability of Vehicles by Region and by Locality (Percent)

Type	Oblast					Urban/Rural		Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural	
CRH		100%	100%	100%	67%	94%	100%	96%
Other Hos	25%	0%	63%		33%	33%	100%	36%
Polyclinics	33%	0%	0%	50%	0%	20%	0%	17%
SUB		60%	50%	20%	50%	100%	44%	48%
SVA		18%	8%	29%	0%		15%	15%
Medical H		0%	0%	0%	0%		0%	0%
Other		0%	0%	100%	0%	0%	33%	14%
Total	30%	20%	18%	21%	16%	48%	12%	19%

Source: Tajikistan Health PETS 2006.

5.16 ***The findings of the PETS show that most rural primary health care facilities (medical house and SVA) do not have the basic infrastructure to provide health services.*** Most rural primary health care facilities have very limited access to water, electricity, and heating in the winter season, as well as means of communication in general. On the other hand, urban facilities and hospitals in general seem to have significantly better basic infrastructure. The findings show great disparities between urban and rural facilities and imply the need for greater investment in basic infrastructure for rural primary health care facilities.

B. FACILITIES INPUTS

5.17 ***The PETS was originally designed to track the health expenditures that reached health facilities at various administrative levels; however, it faces challenges due to a lack of approved health facility budgets.*** As discussed in Chapter 3, republican and oblast level facilities do have separate budgets, while primary health care facilities such as FAPs, SUBs, SVAs, and rural medical houses do not have their own separate budgets approved. Tracking expenditures of facilities was not feasible as health facilities lacked information regarding funding allocated to them. It was a convention that a CRH and in some cases jamoat administration provided health facilities of a particular rayon with in-kinds inputs whose financing was a part of consolidated CRH and jamoat budgets. The PETS showed that only 35 percent of the facilities reported preparing a budget in 2005 but the desegregation by type of facility shows that only 31 percent of SVA and 18 percent of medical houses prepared a budget.

5.18 ***To overcome this lack of critical information, the PETS estimated the amount of resources that reached the facilities by using several questions regarding inputs received by the facilities during 2005.*** However, it is necessary to highlight the limitations of the findings regarding allocations and expenditures at the facility level. Since most facilities did not have budgets, the interviewee is asked to provide a self-assessment of how much support they received from government and external sources. It is impossible to verify this information given the lack of documentation and misinformation may be the result of recall difficulties. Furthermore, the questionnaire asked respondents at the facilities to provide an estimate of the monetary value of the drugs received which can't be corroborated and may be inaccurate. Additionally, the data from GBAO seems to present some discrepancies; most facilities in GBAO reported receiving support from government sources but there was no data regarding receiving support for drugs, food, and fuel. Despite these limitations, the data provided by the PETS present interesting findings highlighted in the next paragraphs.

5.19 ***Perhaps the most startling finding regarding inputs to facilities was that 16 percent of facilities reported that other than salaries they did not receive any other funds or in-kind resources from government sources in 2005.*** The inequity is greatest among medical houses and consequently in rural primary health care facilities. The PETS shows that almost 1 out of 4 medical houses did not receive any other funds or in-kind resources from the government for expenditures other than salaries. This represents a significant proportion of medical houses that did not receive funds or in-kind resources for drugs, equipment, fuel, etc. Another type of facility that did not receive support other than salaries from government sources were SVA (14 percent).This finding could explain the need for some facilities to ask patients to contribute out-of-pocket payments to cover the cost for the basic needs of the facility because funds might not be allocated for these facilities in the first place or funds might be reallocated for other purposes.

5.20 ***Since the PETS sample has a considerable representation of medical houses and SVA, this finding raises serious concerns about the ability to provide resources to primary health care in rural facilities in Tajikistan.*** As medical houses and SVA are the main facilities that did not receive medical inputs other than salaries, it is difficult to know how these facilities could provide quality primary health care without any resources other than salaries.

5.21 ***The data also shows variations across regions and locality***. Sogd and Khatlon had the largest percentage of facilities (20 percent) that did not receive support other than salaries from government sources, while GBAO and RRS has less than 8 percent of facilities with no support (table 5.4). Furthermore, almost all facilities in GBAO, including medical houses, reported receiving other support from government sources. The only exception was 1 medical house that didn't receive support. However, it is important to highlight that GBAO had the smallest sample of facilities and medical houses. Medical houses in Khatlon had the largest percentage of facilities that did not receive other type support with 34 percent.

Table 5.8: Facilities Receiving Funds or In-kind from Government Sources Other than Salaries (Percent)

Type	Oblast					Urban/Rural		Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural	
CRH		100%	100%	100%	100%	100%	100%	100%
Other Hos	100%	100%	100%		100%	100%	100%	100%
Polyclinics	100%	75%	100%	100%	100%	93%	100%	94%
SUB		80%	100%	100%	100%	50%	96%	93%
SVA		82%	85%	93%	100%		86%	86%
Medical H		76%	66%	89%	93%		76%	76%
Other		33%	100%	100%	0%	75%	33%	57%
Total	100%	79%	79%	92%	94%	95%	81%	84%

Source: Tajikistan Health PETS 2006.

5.22 ***Drugs.*** The PETS found that 39 percent of sampled facilities reported not receiving drugs from government sources**.** Only 1 facility in GBAO reported receiving drugs from government sources, which is highly unlikely to be valid when compared with the data of other regions and this could indicate a survey data problem. However, when excluding the facilities in GBAO, the PETS found that 33 percent of the remaining facilities in the other regions did not receive drugs in 2005. Over 90 percent of the CRH received drugs from government sources but only one half of the medical houses received drugs. Furthermore, Khalton had the lowest percentage of medical houses facilities that did not receive drugs (58 percent). Comparatively, as expected, all facilities in Dushanbe received drugs from government sources. Two issues arising from the lack of availability of drugs in one third of facilities are the impact on patients care and the out-of-pocket payments to purchase necessary drugs by patients.

Table 5.9: Facilities that Received Funds or In-kind for Drugs from Government Sources (Percent)

Type	Oblast					Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	
CRH		88%	91%	100%	0%	82%
Other Hos	100%	75%	88%		0%	64%
Polyclinics	100%	75%	75%	100%	0%	78%
SUB		80%	80%	100%	0%	78%
SVA		82%	58%	79%	0%	68%
Medical H		66%	42%	66%	7%	50%
Other		33%	100%	0%	0%	43%
Total	100%	72%	57%	75%	3%	61%

Source: Tajikistan Health PETS 2006.

5.23 ***Table 5.10 presents the average amount of drugs that the facilities received in monetary terms.*** The interviewees were asked to estimate the monetary value of the drugs received from government sources. On average, the facilities received drugs from government sources in the amount of approximately 8,044 Somonis. Evidence suggests that the services provided by the facilities and the size of the target population were factored into the amount of drugs that they received from the government.

5.24 ***There were great variations in the average amount of drugs that facilities received from government sources across regions and types of facilities.*** In terms of type of facilities, CRH and other hospitals received significantly greater amounts of drugs than other types of

facilities. On one extreme, CRH received on average of 41,947 Somonis and, on the opposite side, medical houses received only 108 Somonis. When the data is reviewed by regions, facilities in Dushanbe received the highest amount of drugs (35,005 Somonis) and facilities in Khatlon the least (4,831 Somonis)[35]. It could be expected that facilities in Dushanbe received the largest amount given that it has the largest target population. However, the minimal amounts provided to Khatlon are surprising because these facilities had the second largest target population. Furthermore, CRH, SUB, SVA, and medical houses in Khatlon received less Somonis for drugs than the same type of facilities in the other regions.

Table 5.10: Funds or In-kind Drugs that Facilities Received from Government Sources By Region and Type of Facility (in Somoni)

Type	Oblast					Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	
CRH	.	69,048	27,164	32,504	.	41,947
Other Hos	54,308	722	8,298	.	.	21,741
Polyclinics	22,136	1,081	2,960	25,588	.	14,008
SUB	.	570	954	3,117	.	1,233
SVA	.	299	221	276	.	263
Medical H	.	104	68	166	15	108
Other	.	.	2,000	.	.	2,000
Total	35,005	8,197	4,831	6,451	15	8,044

Source: Tajikistan Health PETS 2006.

5.25 ***Food. Only just over half of the facilities that had beds reported receiving food from government sources.*** GBAO was not included in the analysis of food support from government sources due to concerns with the data for this region. However, overall the data provide interesting findings regarding the availability of food by type of facility in those facilities that have beds and therefore provide inpatient care. Similar to drugs, almost 90 percent of the CRH received support for food from government sources, while only 60 percent of SUB received support. Further, 19 SVA that reported having beds did not received support for food from government sources. Given the low levels of food received, it could be assumed that patients staying in the SVA and in the SUB would have to pay for or bring their own food to the facilities. Both SVA and, particularly, SUB provide services for inpatient care to a significant number of patients and for extended lengths of stay (the next section reviews the number of patients by facility and the length of stay).

5.26 ***There was also a great difference across regions in the percentage of facilities that received food from government sources.*** All facilities with beds in Dushanbe and almost of them in RRS (92 percent) received food from the government. However, only half or less of the facilities with beds in Khatlon (50 percent) and Sogd (45 percent) received food from government sources. The data demonstrates great inequities across the regions regardless of the type of facility. Consequently, all[36] CRH and SUB with beds in RRS received food while only 82 percent of the CRH with in Khatlon and just 40 percent of the SUB in Sogd.

[35] Again, GBAO is not part of the analysis because of concerns in the reliability of the data

[36] Facilities in GBAO are not part of the analysis to compute the total

Table 5.11: Facilities Receiving Funds or In-kind for Food from Government Sources (Percent)

Type	Oblast					Total [35]
	Dushanbe	Sogd	Khatlon	RRP	GBAO	
CRH		88%	82%	100%		88%
Other Hos	100%	75%	75%			81%
Polyclini	100%	0%	0%			33%
SUB		40%	60%	100%		60%
SVA		0%	0%	0%		0%
Total	100%	45%	50%	92%		57%

Source: Tajikistan Health PETS 2006.

5.27 ***Table 5.12 presents the average amount of food that the facilities received in monetary terms.*** The interviewees were asked to estimate the monetary value of the food received from government sources. On average the facilities received support for food from government sources in the amount of approximately 25,623 Somonis. However, there were great disparities in the average amount of food that facilities received from government sources across regions and type of facilities. Evidence suggests that the number of beds that facilities possess is correlated to the amount of food that they receive from the government. However, the data does not demonstrates that the amount of food received is related to the number of beds.

5.28 ***In terms of type of facilities, CRH and other hospitals received significantly greater food than SUBs – only these 3 types of facilities are eligible for provision of food.*** CRH received on average 49,474 Somonis, while comparatively, SUB received only 2,420 Somonis. The difference in the amounts of food received by these two types of facilities is highly significant when taking into account of their number of beds, likely reflecting a large number of in-patients care provided by CRHs. When the data is reviewed by regions, contrary to expectations facilities in Dushanbe received the lowest amount of food (10,392 Somonis) and facilities in RSS received the highest amount (37,724 Somonis)[37]. Sogd had the highest average number of beds per facility but, surprising, had the second lowest allocation per facility, at less than half of the allocation of those regions with the highest allocation.

Table 5.12: Cash or In-kind for Food from Government Sources Received by Facilities By Region and Type of Facility (Percent)

Type	Oblast					Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	
CRH	.	25,243	62,624	60,209		49,474
Other Hos	12,876	1,633	15,404	.		11,118
Polyclinics	457	.	.	.		457
SUB	.	1,400	1,974	3,998		2,420
SVA						
Total	10,392	13,372	32,660	37,724		25,623

Source: Tajikistan Health PETS 2006.

5.29 ***Fuel.*** One of the most greatly under-funded items for health facilities was fuel or transportation. Only 10 percent of facilities received support for fuel or transportation from

[37] Again, GBAO is not part of the analysis because of concerns in the reliability of the data

government sources. Of those facilities that had a vehicle, only slightly over half of them reported receiving support for fuel from government sources. GBAO is not part of the analysis of fuel/transportation support from government sources due to concerns with the data from this region. However, overall the data provide interesting findings regarding the lack of availability of fuel in facilities, including those that have vehicles.

5.30 ***Similar to drugs and food, there are great disparities in access to fuel between the CRH and the other type of facilities.*** About 80 percent of the CRH received support for fuel from government sources, while medical houses, SVA, and polyclinics received almost no funding for transportation from government sources. SUBs were in a better situation as 32 percent of them received support for fuel/transportation – though still considerably under-funded compared to the support received by the CRH. This seems that the CRH has a priority in funding of this line item.

5.31 ***The comparison of those facilities that received funding for fuel/transportation with those facilities that had a vehicle is interesting.*** Only 56 facilities[38] of the PETS sampling[39] had vehicles and CRH, SUB and SVA were the main type of facilities with vehicles. As previously mentioned, only 57 percent of them received funding for fuel. Of all the facilities that had a vehicle, 80 percent of them received funding for fuel, while only 66 percent of SUB and just one SVA received funding for this line item. It is evident that fuel needs are not very well funded and it is not clear how facilities that have vehicles purchase the fuel for these ambulances or cars, or if they don't purchase fuel at all. However, there were no differences in the percentage of facilities that received funds for fuel from government sources across the regions.

Table 5.13: Funds or In-kind for Fuel from Government Sources Received by Facilities (Percent)

Type	Oblast					Total [38]
	Dushanbe	Sogd	Khatlon	RRP	GBAO	
CRH		88%	73%	83%		80%
Other Hos	25%	25%	0%			13%
Polyclinics	0%	0%	0%	50%		6%
SUB		20%	40%	40%		32%
SVA		0%	4%	0%		2%
Total	10%	11%	10%	13%		11%

Source: Tajikistan Health PETS 2006.

5.32 ***There was significant variation in the average amount of fuel that facilities received from government sources across regions and type of facilities.*** Table 5.12 presents the average amount of fuel/transportation that the facilities received in monetary terms. On average, the value of fuel that the facilities received from government sources is approximately 5,342 Somonis. By type of facilities, as expected CRH and other hospitals received significantly greater amount of Somonis for fuel than other types of facilities. The CRH received on average 7,680 Somonis, while SUB received only 391 Somonis. The difference in the amounts received by these two types of facilities is significant but the reason for the difference is unclear. Regionally, facilities in Khatlon received the lowest amount of fuel (1,107 Somonis) and facilities in RSS received the highest amount (37,724 Somonis)[40]. Again, it is unclear why RSS spent 10 more times on average per facility than Khatlon or almost double compared to Sogd, which had the second

[38] Without GBAO

[39] Facilities in GBAO are not part of the analysis to compute the total

[40] Again, GBAO is not part of the analysis because of concerns in the reliability of the data

highest expenditure on fuel per facility. Furthermore, RRS had the highest average allocation for fuel for CRH across regions but the lowest allocation for SUB.

Table 5.14: Funds or In-kind for Fuel from Government Sources Received by Facilities By Region and Type of Facility (in Somoni)

Type	Oblast					Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	
CRH	.	7,431	1,557	16,600		7,680
Other Hos	4,592	.	.	.		4,592
Polyclinic	.	.	.	1,576		1,576
SUB	.	580	392	200		391
SVA	.	.	100	.		100
Total	4,592	5,908	1,107	10,622		5,342

Source: Tajikistan Health PETS 2006.

5.33 ***Other inputs.*** Expenditures on stationeries and other materials constituted a sizeable line item in the health budget in Tajikistan. Over one-half of the facilities interviewed reported that they received support from government sources for other materials that did not include drugs, food, and fuel. This percentage of facilities is just lower than the percentage of facilities that received drugs but higher than those that received food and fuel. Furthermore, even facilities in GBAO reported receiving other materials from government sources while they did not report receiving for other items. Therefore, this analysis for other materials includes GBAO, even though only a very low percentage of facilities reported receiving this type of support (13 percent).

5.34 ***Also, a higher percentage of CRH received support for other inputs from government sources than other types of facilities.*** The percentage of CRH that received this type of support (44 percent) was almost double the percentage received by medical houses. Regarding other types of support, all facilities in Dushanbe received support for other materials from government sources. On the other hand, Sogd had the lowest percentage of facilities that received support for other materials (41 percent) partly due to having the lowest percentage of medical houses receiving this type of support.

Table 5.15: Funds or In-kind for Other Materials Received by Facilities from Government Sources (Percent)

Type	Oblast					Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	
CRH		88%	91%	83%	33%	82%
Other Hos	100%	50%	50%		33%	55%
Polyclinics	100%	25%	75%	100%	50%	72%
SUB		60%	90%	60%	0%	67%
SVA		65%	69%	71%	0%	66%
Medical H		41%	49%	54%	0%	44%
Other		0%	100%	0%	0%	29%
Total	100%	51%	62%	62%	13%	55%

Source: Tajikistan Health PETS 2006.

5.35 ***Table 5.16 presents the average amount of support received for other materials in monetary terms.*** The high amounts allocated or received for these items is unanticipated. On average the facilities that received support for other materials from government sources received approximately 9,945 Somonis, which was higher than the average amount that facilities received for drugs and fuel.

5.36 ***There were also great disparities in the average amount of support for other materials that facilities received from government sources across regions and type of facilities.*** In terms of type of facilities, CRH again received significantly greater amounts of support for other materials than other types of facilities. CRH received on average 46,229 Somonis while SUB received 3,683 Somonis for other materials and medical houses received only 148 Somonis. When the data is reviewed by region, GBAO and Dushanbe received significantly higher amounts for other materials than other regions. GBAO and Dushanbe spent more than 50,000 Somonis while Sogd and Khatlon spent between 2,000 to 3,000 Somonis.

Table 5.16: Funds or In-kind for Other Materials Received by Facilities from Government Sources By Region and Type of Facility (in Somonis)

	Oblast					Urban/Rural		
Type	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural	Total
CRH	.	13,661	20,605	105,178	177,500	50,138	39,876	46,229
Other Hos	81,242	1,675	620	.	4,750	33,468	5,000	30,880
Polyclinics	31,588	161	1,892	3,051	45,000	24,117	1,767	18,959
SUB	.	2,575	1,589	12,180	.	30	3,898	3,683
SVA	.	329	182	952	.	.	434	434
Medical H	.	140	93	246	.	.	148	148
Other	.	.	2,000	.	.	2,000	.	2,000
Total	51,450	2,487	3,028	15,329	58,000	35,133	3,215	9,945

Source: Tajikistan Health PETS 2006.

5.37 ***Figures 5.4 and 5.5 below compare the average amounts received by type of facility for staffing, drugs, food, fuel, utilities, and other inputs***. However, these comparisons have great limitations. The amounts for each line item are the average of only those facilities that responded that they had received support and provided a monetary value for it. However, these amounts do not represent the average for the entire PETS sample nor could they be corroborated. In addition, not all facilities provided responses for all types of expenditures (staff, drugs, food, fuel, etc). Therefore, the information presented in the graphics below has limitations.

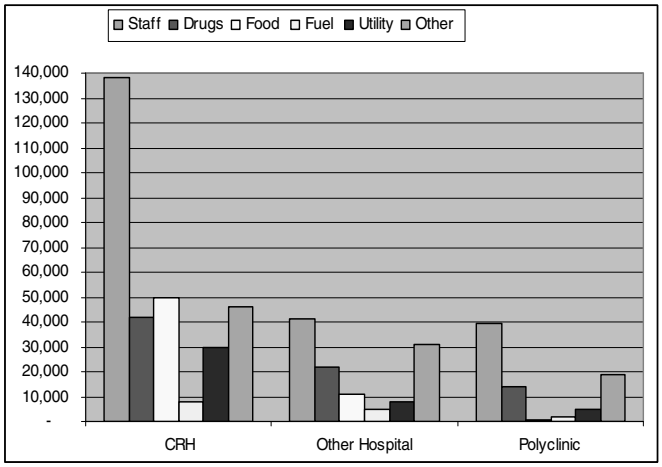
5.38 ***Nonetheless, the data provides a broad picture of different expenditures in the different type of facilities.*** The CRH received on average significantly higher amounts for each of the expenditures than other type of facilities and salaries were the highest expenditure in the six categories of facilities. Another interesting finding highlighted in the graphs below is the high amount of other materials or inputs received. Other materials represented the second highest received inputs reported by facilities with the only exception being CRH and medical houses. For the CRH, food was the second highest input received, this was utilities for medical houses.

5.39 ***Figure 5.4 shows that mainly urban facilities received most of the funds.*** The CRH is singled out as receiving significantly more resources among those that reported receiving support from government sources and provided a monetary value. The CRH reported that the value provided for salaries was so high beyond comparison with the other facilities. Furthermore, the second highest input received in CRH was food and the average amount reported by CRH for food was higher than any other expenditure reported by the other facilities. Even other materials,

the third highest input received reported by CRH, were higher than any other input in the other type of facilities (including salaries).

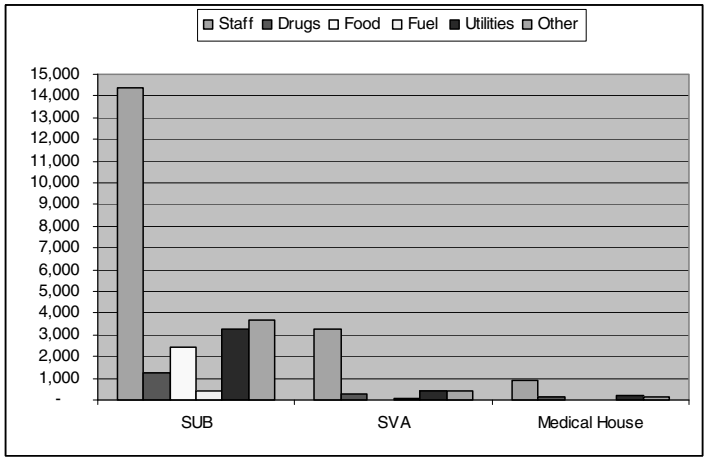
5.40 ***In rural facilities, salaries are also the main input received reported by facilities.*** SUB received significantly more funding than the other rural facilities. Similar to the CRH, the inputs received reported by SUB on salaries was extremely high compared with the other rural facilities. Other materials that were the second highest input received by SUB were even higher than salaries received by the other facilities. An important characteristic of rural facilities is that utilities were an important input, compared with the other values that were provided by rural facilities. Finally, the figures highlight that medical houses reported receiving on average a very limited amount resources.

Figure 5.4: Average Funds that Urban Facilities Received by Type of Expenditure and Facility (in Somonis)



Source: Tajikistan Health PETS.

Figure 5.5: Average Funds that Rural Facilities Received by Type of Expenditure and Facility (in Somonis)



Source: Tajikistan Health PETS.

5.41 ***Tables 5.17 and 5.18 examine the amounts reported by facilities for food and drugs and assess if there are patterns in the allocations of these resources based on the national norms for allocation as discussed in Chapter 3.*** Again, these tables also face the same data limitation previously discussed.

5.42 ***The allocations of resources for food and drugs are based on norms (number of beds for inpatient facilities); however, the amounts that facilities reported receiving for food do not seem to be based on the number of beds in the facility.*** The average amount for food that facilities reported receiving in 2005 was equal to 152 Somonis per bed. However, there were great variations in the amounts received for food per bed across regions and facilities[41]. RRS had the highest allocation per bed and Sogd had the lowest. Facilities in RRS reported receiving food support equal to 215 Somonis per bed, which was 4 times higher than in Sogd (54 Somonis).

5.43 ***When the amount spent on food per inpatient is analyzed, there are also great differences across regions.*** Khatlon spent almost 26 Somonis per inpatient on food while Dushanbe only spent 3 Somonis according to the data provided by facilities. When analyzed by type of facility, the CRH had the highest allocation for food per bed (196 Somonis) and SUB had the lowest (80 Somonis). Additionally, if the food allocation reported by facilities is analyzed per in-patient, the CRH again had much higher allocations per inpatient than SUB.

5.44 ***These large gaps in the allocations per bed and per inpatient between the CRH and SUB and also the high allocation of food per bed and inpatient for other hospitals suggest that there is a greater priority placed on secondary and tertiary care in the allocation of food.*** A very interesting finding was that rural facilities had the same allocation of food per bed as urban facilities and higher allocations when analyzed per in-patient.

5.45 ***The findings on drugs also present great variations in the allocations across regions***. As previously presented, facilities in Dushanbe reported significantly higher amounts of support for drugs because it has a large number of highly specialized republican hospitals. Therefore, Dushanbe had the highest allocation for drugs irrespective of dis-aggregation per bed, per inpatient, or per patient. However, even the other regions showed variations in the amounts that they recalled receiving for drugs. For example, facilities in Khatlon reported spending 1.8 Somonis per patient while facilities in Sogd only spent 0.2 Somonis per patient on drugs.

5.46 ***Also, the allocation for drugs shows variation across different types of facilities***. Other hospitals spent more on drugs than other types of facilities, which was a result of sampling given that the sample of Dushanbe included a significant number of other hospitals. The allocation for drugs per bed and per in-patient for the CRH was over 4 times higher than SUB. Finally, it is important to highlight that facilities in Sogd, Khatlon, and RRS spent more on food than on drugs per in-patient, which is surprising given that the allocation for drugs should also cover out-patient visits. This finding would tend to suggest that facilities spend proportionally more on food than drugs. Furthermore, CRH spent for food per in-patient more than twice the amount of drugs per in-patient. The tables also present the allocation for food and drugs per capita. However, this data has serious limitations in defining the per capita allocations which reduces its validity.

[41] The analysis does not include GBAO due to lack of data

Table 5.17: Allocations per Inpatient, per Capita, per Bed and per Total Patients for Food and Drugs By Type Region (in Somoni)

Type	FOOD			DRUGS			
	p/inpatient	p/capita	p/bed	p/inpatient	p/patients	p/capita	p/bed
Dushanbe	3.4	0	130.6	151.2	34.7	0.4	1070.8
Sogd	4.6	0.3	53.7	4.6	0.2	0.1	86.8
Khatlon	25.6	0.5	200	6.2	1.8	0.1	78.6
RRS	11.2	0.4	215	8.5	0.4	0.2	129.6
Total	**14.2**	**0.4**	**152.7**	**17.5**	**2.5**	**0.1**	**160.9**

Source: Tajikistan Health PETS 2006.

Table 5.18: Allocations per Inpatient, per Capita, per Bed and per Total Patients for Food and Drugs By Type of Facility

Type	FOOD			DRUGS			
	p/inpatient	p/capita	p/bed	p/inpatient	p/patients	p/capita	p/bed
CRH	20	0.5	196.2	8.7	4.4	0.3	137.2
Other Hos	14.4	0.2	155.9	10.8	34.3	0.2	301.6
Polyclini	.	0	.		0.4	0.3	
SUB	4.5	0.3	79.6	1.9	0.2	0.1	37.4
SVA	.	.	.		5.5	0.1	0.1	57.8
Medical H	.	.	.	.		0.2	0.1	
Total	**14.2**	**0.4**	**152.7**	**17.5**	**2.5**	**0.1**	**160.9**

Source: Tajikistan Health PETS 2006.

5.47 ***Another important source of resources for health facilities is external support.*** The PETS questionnaire tried to assess the level of support that health received from external sources. A very limited number of facilities received cash support from external sources but 55 percent of the facilities received in-kind support from external sources. The main source of external support was international organizations (90 percent) and in few instances were national NGOs and the local community.

5.48 ***As with government support, CRH and medical houses had the highest and lowest percentage of facilities that received support from external support.*** The majority of the CRH in the PETS sample (except two CRH in Khatlon) reported receiving support from external sources. However, only 39 percent of the medical houses received support from external sources. Also, there are great disparities in the across regions among the facilities that received support from external sources. Dushanbe (80 percent) and RRS (62 percent) had the highest percentage of facilities that received support from external sources while surprisingly GBAO had the lowest percentage of facilities (39 percent). Also there were interesting differences by type of facility within the regions. For example, in GBAO only 20 percent of medical houses received support from external support, which was the lowest percentage of medical houses but contrarily 100 percent of CRH in GBAO received external support. Facilities in RRS had a similar situation as 100 percent of CRH, polyclinics, SUB and others received support from external sources while for medical houses it was only 37 percent. However, interestingly Khatlon had the highest percentage of medical houses that received support from external sources (46 percent) but also it was the only region where CRH did not received external support.

Table 5.19: In-kind Received by Facilities from External Sources by Region and Type of Facility (Percentage)

Type	Oblast					Urban/Rural		Total
	Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	
CRH		100%	82%	100%	100%	94%	90%	93%
Other Hos	100%	100%	75%		67%	81%	100%	82%
Polyclinics	67%	25%	50%	100%	50%	53%	67%	56%
SUB		60%	80%	100%	0%	100%	68%	70%
SVA		59%	54%	86%	50%		63%	63%
Medical H		37%	46%	37%	20%		39%	39%
Other		33%	50%	100%	0%	25%	67%	43%
Total	80%	52%	56%	62%	39%	75%	50%	55%

Source: Tajikistan Health PETS 2006.

5.49 ***The main type of support that external sources provided to facilities was drugs accounting for 80 percent of the drug supply at facilities.*** In total 138 facilities in the PETS sample received drugs from external sources (43 percent of all facilities), which was lower than the facilities that received drugs from the government (193). However, the PETS provides two very important and interesting findings regarding the external support on drugs. First, higher number of CRH and hospitals received drugs from external than government sources. Second, and perhaps more importantly was that facilities reported a significantly higher value for the drugs that they received from external sources than from the government. On average facilities valued the drugs that they received from external sources at 75,369 Somonis while the drugs that facilities received from government was valued at 8,044 Somonis.

5.50 ***There were significant differences in the average amount of support for drugs that facilities received from government and external sources across regions and type of facilities.*** CRH, SUB, SVA, and medical houses reported significantly higher amounts of drugs from external than government sources (See Table 5.20). For example, CRH estimated the highest value for the drugs that they received from external sources at 268,286 Somonis, which was significantly higher to their estimates from government sources (41,947 Somonis). However, proportionally the greatest difference between government and external sources in the support for drugs provided to facilities was in medical houses. Medical houses that received support for drugs on average valued the external support to be around 11,486 Somonis and the governments support just 108 Somonis. Contrarily, other hospitals and polyclinics valued higher amounts of drugs from government than external sources. External support for drugs was also on average significantly higher than the government if analyzed by region. Facilities in Sogd, Khatlon, and RRS received on average greater support for drugs from external sources than the government. Facilities in Sogd reported an enormous difference as they valued the support for drugs from external sources at 164,884 Somonis and the government's support at 8,197 Somonis.[42] Dushanbe is the only exception because the facilities in Dushanbe reported higher support for drugs from government sources than external.

[42] GBAO is not part of the analysis due to lack of data

Table 5.20: Funds or In-kind that Facilities Received for Drugs from Government and External Sources by Type of Facility and Region (in Somonis)

Type	External	Government	Region	External	Government
CRH	268,286	41,947	*Dushanbe*	3,637	35,005
Other Hos	10,117	21,741	*Sogd*	164,884	8,197
Polyclini	2,456	14,008	*Khatlon*	22,990	4,831
SUB	24,900	1,233	*RRS*	42,839	6,451
SVA	2,077	263	*GBAO*	2,000	
Medical H	11,486	108	*Urban*	138,986	31,007
Other	2,693	2,000	*Rural*	14,644	1,121
Total	75,369	8,044	*Total*	75,369	8,044

Source: Tajikistan Health PETS 2006.

5.51 ***The findings regarding the support that facilities received for drugs on monetary value should be interpreted with great caution***. As it was mention before, the data have great limitations because it was based on estimates of the interviewee that could not be corroborated and not all facilities provided data. Also, the monetary estimates for the support that facilities reported for drugs from external sources could be overvalued because the estimates could have included support for other inputs (e.g. renovations). However, still even this was the case it does not underrate the great role that external sources play in the financial support of health facilities in Tajikistan. ***Even it is assumed that the external support of 75,369 Somonis included other inputs than drugs, it is still less than the total support that on average facilities reported receiving from government sources (78,508 Somonis). However, the external support would be higher than the government support when excluding salaries (54,348 Somonis).***

5.52 ***This finding highlights the great relevance that external financing in the health sector and consequently raises several questions regarding its allocation***. Only 70 percent of the facilities mentioned that they reported the use of external support to higher authorities. Furthermore, the data showed that fewer percentage of rural primary care facilities reported external support than other type of facilities. In case that the government has information on the magnitude of external support, the allocation of budgetary funding to health facilities may have taken into account of the availability of external financing. Table 5.21 presents a chi-square test that indicates that there is a strong (1 percent) statistically significant relation between receiving support from government source and receiving support from a donor. Also the data indicates there is a (weak) statistically significant relation between receiving drugs from government source and receiving drugs from a donor (however, the significance is at 10 percent) Even though the data does not show causality still there is a statistical relation that those who received support from the government were also likely to receive support from donors.

Table 5.21: Facilities that Received in Funds or in Kind for Drugs from Government and External Sources

SUPPORT		Donor Yes	Donor No	Total	DRUGS		Donor Yes	Donor No	Total
	Yes	154	112	266		Yes	92	101	193
	No	20	31	51		No	46	78	124
Government	Total	174	143	317	Government	Total	138	179	317
Pearson chi2(1) = 6.0303 Pr = 0.014					Pearson chi2(1) = 3.4323 Pr = 0.064				

Source: Tajikistan Health PETS 2006.

5.53 ***Despite lack of approved health facility budgets, the data provided by the PETS present interesting findings.*** The most startling regarding inputs to facilities was that 16 percent

of facilities reported that other than salaries they did not receive any other funds or in-kind resources from government sources in 2005. Even though it was not possible to probe leakages in the flow of funds, this finding shows that resources are not reaching health facilities, particularly PHC facilities. Almost 1 out of 4 medical houses did not receive any other funds or in-kind resources from the government for expenditures other than salaries. There were also great disparities across regions and type of facilities in those facilities that received support and average amount of support that they received from government sources. Higher percentage of CRH received support and on average they also received significantly higher amounts for each of the expenditures (salaries, drugs, fuel, food, and other materials) than other type of facilities. On the other hand, medical houses and consequently in rural primary health care facilities received significantly lower support from the government. As expected, salaries were the highest expenditure in the six categories of facilities. The second highest expenditure was other material but for inpatient facilities food was a significant expenditure. However, the amounts that facilities reported receiving for food did not seem to be based on the number of beds in the facility because there were great variations in the amounts received for food per bed across regions and types of facilities. Finally, 55 percent of the facilities received in-kind support from external sources, mainly from international organizations, and this financial support is of great relevance that external financing in the health sector.

C. SERVICE OUTPUT

5.54 ***The PETS questions regarding health outputs focused on the number of inpatient and outpatient visits, the number of patients for given interventions, and a specific module for immunization services.*** Immunization being a priority public health intervention and a key output of the health system, the findings from the immunization survey could be used as a proxy of primary health care more broadly.

5.55 ***Inpatient Care. All CRH, other hospitals, and SUB in the PETS' sample provided inpatient care in 2005***. These three types of facilities bear the primary responsibility for providing inpatient care in the country, which is also reflected in the number of beds per facility. CRH had the most beds on average per facility (297), other hospitals had on average 65 beds, and SUB had 37 beds per facility. In addition, two polyclinics and 13 SVA reported providing inpatient care, which was not surprising given that they also reported having beds in these facilities.

Table 5.22: Health Facilities that Provided Inpatient Care by Type of Facilities and Region (Percentage)

	Oblast					Urban/Rural		
Type	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural	Total
CRH		100%	100%	100%	100%	100%	100%	100%
Other Hos	100%	100%	100%		100%	100%	100%	100%
Polyclinics	17%	0%	25%	0%	0%	13%	0%	11%
SUB		100%	100%	100%	100%	100%	100%	100%
SVA		35%	23%	7%	0%		22%	22%
Medical H		0%	0%	0%	0%		0%	0%
Other		0%	0%	0%	0%	0%	0%	0%
Total	50%	32%	29%	19%	35%	72%	19%	29%

Source: Tajikistan Health PETS 2006.

5.56 ***Central Rayon Hospitals and facilities in Sogd had on average more inpatients visits in 2005***. It is not surprising that Central Rayon Hospitals had on average the highest number of

inpatients since CRH is the main facility in the rayon and the destination of referrals for the rayon. The average number of inpatients for all CRH and SUB is just below 10 percent of the average target populations. However, there is an important difference in the average number inpatients among oblasts. For example, Sogd had 4 times more inpatients than GBAO though this was not a result of larger target populations (table 5.23). The average number of inpatients in CRH and SUB in GBAO represented 3 percent of the target populations of these facilities while the average number of inpatients in Sogd represented 12 percent of the target populations, 4 times higher. The inpatient admission rate of the PETS sampling was 3.9 percent, which was significantly lower than the rate reported by administrative data at 9.2 percent for 2002. However, the PETS findings tend to be corroborated by the TLSS survey that reported the inpatient admission rate as 3.2 percent in 2003. In all three data sources, Sogd had the highest inpatient admission rate. However, discrepancies in the utilization rates throw into question the validation of the administrative data and their value in producing accurate and reliable information.

Table 5.23: Average Number of Inpatients Visits by Type of Facilities and Region

	Oblast					Urban/Rural		
Type	**Dushanbe**	**Sogd**	**Khatlon**	**RRP**	**GBAO**	**Urban**	**Rural**	**Total**
CRH	.	13,690	8,368	7,182	3,191	8,371	10,356	9,080
Other Hos	4,212	637	1,196	.	425	1,469	650	1,432
Polyclinics	60		185	.	.	123	.	123
SUB	.	1,240	1,246	638	135	766	1,071	1,049
SVA		53	111	275	.	.	97	97
Total	3,381	4,456	3,192	3,880	1,126	4,263	2,699	3,430

Source: Tajikistan Health PETS 2006.

5.57 ***The average length of stay for inpatients was 15 days, which is higher than the official administrative data that reports 12 days.*** Facilities in RRP had the shortest length of stay for inpatients at 10 days, which was 2/3 of the PETS average and lower than the administrative data. On the other hand, GBAO had a significantly longer length of stay for inpatients at 30 days, which was double the PETS average. Additionally, official administrative data show that GBAO had longer length of stays. It is extremely interesting that GBAO had significantly longer lengths of stay compared with the other regions but, at the same time, had significantly lower numbers of admission for inpatient care. The analysis of length of stay for inpatients by type of facility shows that other hospitals had the longest length with almost 29 days. This stay is more than double the length in other types of facilities. This is not surprising given that these other hospitals mainly provide tertiary care, which may require longer care. Without counting tertiary care facilities, the average length of stay was reduced from 15 days to 11 days, which is lower than the administrative data.

	Official Stat. 2005 (for all types of facilities)	PETS 2005 (without tertiary facilities)	PETS 2005 (for all types of facilities)
Dushanbe	11	12.00	11.80
Sogd	12	10.63	15.61
Khatlon	12	10.57	12.11
RRS	14	10.42	10.42
GBAO	15	15.20	30.55
Urban		12.41	19.58
Rural		10.23	11.24
Tajikistan	12	10.91	15.14

Source: Tajikistan Health PETS 2005 and Republican Medical Statistics Office

Table 5.24: Average Length of Stay by Type of Facilities and Region

Type	Oblast					Urban/Rural		Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural	
CRH	.	11.5	12.3	10.2	14.3	11.9	11.7	11.8
Other Hos	11.8	45.5	17.5	.	43.3	27.1	60	28.6
Polyclinics	12	.	18	.	.	15	.	15
SUB	.	12.8	10.8	11.4	16.5	14.5	11.9	12.1
SVA	.	5.8	5.8	7	.	.	5.9	5.9
Total	11.8	15.6	12.1	10.4	30.5	19.6	11.2	15.1

Source: Tajikistan Health PETS 2006.

5.58 ***Outpatient Care. On average there was one outpatient visit per capita per year and rural health facilities provided slightly more outpatient visits per capita than urban facilities.*** As anticipated, almost all health facilities (97 percent) provided outpatient care in 2005, the main exception being some hospitals, which chiefly provide tertiary care. The average outpatient visits per capita does not account for these hospitals. Surprisingly, 3 CRH and 2 medical houses reported that they provided outpatient care, which was most likely a product of the data collection. The findings show on average a tendency of at least one annual visit to a health facility per person. However, this statement can't be fully substantiated because the data does not provide how many visits are repeat visits by the same patient and how many visits are made by new patients. Also the data shows that in general medical houses provided the most outpatient visits per capita per year (1.14) and the CRH the least outpatient visits per capita (0.70), which could confirm that medical houses, SVA and polyclinics are the entry point for patients to the health system.

5.59 ***When analyzed by region, the data illustrates a great disparity of average per capita outpatient visits among regions and Sogd had significantly more visits (1.6) among regions while GBAO had the least (0.6)***. It is very interesting that GBAO had almost no outpatient visits per capita at the CRH level but a high average of visits per capita at the polyclinic level, which could result either from the small sample (only 3 CRH) or patients' preference for using primary care facilities. In the case of Khatlon, the extremely low number of visits per capita at the polyclinic level is a concern as it could imply an inefficient use of facilities by patients. On the other hand, compared with the other regions, Sogd had the highest number of outpatient visits per capita for medical houses (1.6), SVA (1.6), and polyclinics (1.8), which are primary health care facilities and the entry points for patients to the health system.

5.60 ***When compared with the results of the TLSS, the PETS had highest number of outpatient visits per capita nationally (0.7 in TLSS) and in most regions with the exception of GBAO (0.9 in TLSS) and Dushanbe (0.9 in TLSS).*** The only exception is Sogd because the PETS outpatient visits per capita is double the TLSS. (0.8). However, it should be noted that the PETS data on outpatient visits is quite different from that of official statistics, which could be partly attributed to the PETS sample size and sampling methodology. The data for Dushanbe and GBAO includes only 40 observations of health facilities and, thus, is highly prone to skewed influence from the small sample size. Still, overall the official statistics on outpatients report much higher figures for Khatlon, RRS and Sogd, which makes it difficult to reconcile with the PETS data. Furthermore, the average outpatient data provided by TLSS-2003 is also very different to the administrative data. However, the discrepancies in the data on average outpatient visits between the PETS and TLSS are not significant, which could corroborate the findings of the PETS and pose a question of the validity of the administrative data.

Table 5.25: Outpatient Visits per Year per Capita Care by Type of Facilities and Region

Type	Oblast					Urban/Rural		Total
	Dushanbe	Sogd	Khatlon	RRP	GBAO	Urban	Rural	
CRH		1.3	0.6	0.59	0.06	0.84	0.47	**0.7**
Polyclinics	0.86	1.82	0.35	0.52	0.88	0.99	0.6	**0.92**
SUB		1.67	0.7	1.24	0.3	2.21	1.05	**1.13**
SVA		1.57	0.65	1.26	0.48		1.05	**1.05**
Medical house/FAP		1.6	0.87	1.26	0.75		1.14	**1.14**
Total	**0.86**	**1.59**	**0.77**	**1.17**	**0.61**	**0.99**	**1.08**	**1.07**

Source: Tajikistan Health PETS 2006.

Table 5.26: Outpatient Visits per Year per Capita by Region

	PETS 2005	Official Stat. 2005	TLSS 2003
Dushanbe	0.89	18.1	0.92
Sogd	1.59	4.4	0.79
Khatlon	0.77	1.5	0.44
RRS	1.17	2.6	0.87
GBAO	0.61	1.8	0.93
Urban	0.99		
Rural	1.08		
Tajikistan	1.07	4.2	0.70

Source: Tajikistan Health PETS 2005, TLSS 2003 and Republican Medical Statistics Office

5.61 ***While this phenomenon of such a considerable deviation remains unclear, PETS data provides very close estimates of administrative statistics in other instances, such as previously discussed average lengths of hospital stays in number of days.*** In general, PETS indicators for outpatient visits per capita for Khatlon, RRS and Sogd consistently reflect the regional disparities in terms of relative standing. For example, it shows that Khatlon and RRS lag behind Sogd with respect to the number of outpatient visits per capita. As was identified by TLSS-2003, the difference in income level of population is one of the major factors that influenced the utilization rates although other determinants of such disparities should exist.

5.62 ***The PETS questionnaire did not delve into details regarding health outputs at the facility level.*** However, the questionnaire did question facilities regarding a limited number of health interventions for inpatients and outpatients. For inpatient services, the questionnaire included questions on the following interventions: burn treatment, infectious disease (non HIV/AIDS), obstetrics (other than deliveries), deliveries, and pediatric care. For outpatient services, the questionnaire included questions on these interventions: burn treatment, infectious disease (non HIV/AIDS), family planning, diarrhea treatment, and pediatric care.

5.63 ***Table 5.27 surprisingly shows that the probability that a SUB or SVA would provide some of the specified 5 types of out-patient services is higher than that of provision at a CRH.*** Moreover, it appears that even a polyclinic has a lower likelihood of providing these services than a medical house. For example, pediatric care is the out-patient service most provided at health facilities and also was the intervention with the highest number of average patients of the 5 interventions. However, very surprisingly, almost 30 percent of polyclinics did not provide pediatric care and diarrhea treatment; it is unclear why more than 1 out of 4 polyclinics did not provide pediatric care given that polyclinics are the urban providers of primary care, pediatric care is a cornerstone of primary care and, in theory, polyclinics should be the entry point for

patients to the health systems. On the other hand, over 95 percent of medical houses and SVA provided pediatric care and diarrhea treatment. Since medical houses and SVA are the rural providers of primary care and, in theory, they should be the entry for patients to the health system, it is expected that almost all of them would provide pediatric care.

5.64 ***In outpatient care, the average number of visits related to family planning is roughly three times lower than that of pediatric care.*** Furthermore, if compared with the total number of outpatient visits, outpatient pediatric visits would represent 30 percent of total visits and 50 percent of average outpatient visits to polyclinics. However, some caution is recommended regarding these findings because of potential bias resulting from more facilities reporting providing pediatric care than other interventions. Additionally, the average number of family planning visits is approximately three times higher than that of infectious diseases. It is notable that while a polyclinic serves on average more visits related to pediatric care than a CRH does, the number of family planning consultations provided by polyclinics is four times less than the number of consultations provided at a CRH.

5.65 ***As for inpatient treatment, more than 90 percent of CRHs are expected to be capable of delivering the necessary treatment for the five indicated services, while SUBs attained such levels only for deliveries and pediatric care***. Table 5.26 reveals that out of the 5 different outpatient services, deliveries was the most demanded followed by pediatric care and obstetrics. In the case of CRH and SUB, none of these 5 interventions represented more than 20 percent of the total outpatient care of the facility. In CRH, out of the 5 interventions, deliveries and pediatric care had the highest number of patients, which represented 17 percent and 15 percent of all inpatient visits of the CRH. SUB had the same interventions with highest number of patients but in reverse order, so pediatric care represented 19 percent of all inpatient in SUB with deliveries at 15 percent. However, some results highlight caution needed regarding generalizing assumptions of the findings of the PETS regarding outputs. For example, SVA had on average 97 inpatient visits but reported on average 109 visits for infectious diseases treatment, although infectious disease treatment was not the most common intervention in the sample and this number is higher than the total number of inpatients. These inconsistencies could be a product of the small sample size or poor quality of the data.

Table 5.27: Facilities Providing Specific Out and In- patient Services, by Type of Facility (Percent)

Out-patient:	Diarrhea treatment	Burn treatment	Family planning	Infectious diseases	Pediatric care
CRH	82.1	53.6	85.7	82.1	82.1
Other Hospital	13.6	18.2	13.6	36.4	45.5
Polyclinic	66.7	38.9	44.4	55.6	72.2
SUB	100.0	66.7	85.2	77.8	100.0
SVA	96.6	62.7	93.2	79.7	98.3
MD	94.9	51.3	84.0	64.7	96.2
Other	-	-	28.6	14.3	-
All for out-patient:	85.2	50.8	77.6	66.6	88.6
In-patient:	Burn treatment	Infectious diseases	Obstetrics	Deliveries	Pediatric care
CRH	92.9	89.3	96.4	96.4	96.4
Other Hospital	18.2	45.5	18.2	18.2	36.4
Polyclinic	-	-	-	-	5.6
SUB	48.1	55.6	77.8	92.6	100.0
SVA	3.4	5.1	6.8	11.9	8.5
MD	-	-	-	-	-
Other	-	-	-	-	-
All for in-patient:	14.2	16.7	17.7	19.9	21.5

Source: Tajikistan Health PETS 2005

Table 5.28: Average Number of Out and In-patient Services Provided by Type of Facility

Out-patient:	Diarrhea treatment	Burn treatment	Family planning	Infectious diseases	Pediatric care
CRH	1,877.8	46.4	8,109.5	1,470.9	14,399.6
Other Hospital	1,426.0	13.5	3,036.7	2,036.3	2,571.1
Polyclinic	556.3	21.7	1,957.8	1,062.2	23,435.3
SUB	384.1	9.2	1,006.0	206.8	4,749.2
SVA	267.2	13.3	504.5	311.5	1,883.4
MD	127.2	5.1	188.1	108.5	350.5
Other	.	.	805.0	2,280.0	.
All for out-patient:	366.0	12.2	1,213.7	442.2	3,408.2
In-patient:	Burn treatment	Infectious diseases	Obstetrics	Deliveries	Pediatric care
CRH	29.9	476.5	754.6	1,556.8	1,339.5
Other Hospital	30.5	621.4	1,136.8	1,607.0	431.9
Polyclinic	.	.	.	.	60.0
SUB	8.1	101.8	146.0	158.8	200.9
SVA	13.5	109.3	61.8	49.9	83.8
MD	.	.	.	.	.
Other	.	.	.	.	.
All for in-patient:	22.9	377.0	504.2	837.8	669.5

Source: Tajikistan Health PETS 2005

5.66 ***The PETS also surveyed other outputs from health facilities.*** These additional outputs are outreach services, supervision, and visits to the CRH. Outreach is a clear output of the health facility as an approach to provide health services. Supervision is another function of some health

facilities that should impact on the quality of the services. Finally, facilities had to make frequent visits to the CRH for several reasons related to the provision of services, such as receiving salaries, picking up drugs or vaccines, and attending planning sessions or meetings.

5.67 ***Outreach. 40 percent of the facilities provided outreach services with great variation in the degree of provision of outreach services among different type of facilities and Oblasts.*** Perhaps the most significant finding regarding outreach is that almost all CRH (93 percent) provided outreach services and that GBAO had by far the highest percentage of facilities that provided outreach (70 percent). However, these findings are not particularly surprising in regards to GBAO – GBAO's population is widely dispersed making it necessary that health facilities extend the delivery of services through outreach activities. Comparatively, it is also logical that Dushanbe had the least percentage of facilities providing outreach activities given its status as the capital city with a densely populated area. Table 5.29 present the findings on outreach activities.

5.68 In terms of findings among types of facilities and outreach activities, the data shows that CRH had the highest percentage of facilities that provided outreach (93 percent) and medical houses had lowest percentage (22 percent). However, there were great variations across regions in terms of the percentage of facilities that provided outreach by type of facilities. For example, medical houses had the lowest percentage that provided outreach but it ranged from 15 percent in Khatlon to 53 percent in GBAO. Similarly, though nationally 44 percent of SUB provided outreach, there were significant differences in outreach provision between Khatlon (20 percent), RRP (40 percent), Sogd (60 percent), and GBAO (100 percent).

5.69 ***There were also great differences in the number of outreach trips per quarter between type of facilities and regions.*** Table 5.29 also provides the average number of trips for outreach per quarter. The average number of outreach trips per quarter for those facilities that provided outreach was 18, with an average 6 outreach trips per month. In terms of differences across types of facilities, SUB on average had the most outreach trips per quarter with 31 trips, or more than 10 trips per month, while other hospitals had the least number of trips with just over 1 trip per month. The data also demonstrate great variations when analyzed by region. Facilities in Khatlon, for example, had the least outreach trips with 9 trips per quarter, while RRS facilities had more than 3 times that number outreach trips with 31 trips per quarter.

5.70 ***Medical houses in GBAO had the most outreach trips with 46 trips per quarter or over 15 trips per month.*** Medical houses also show great disparities across regions with on average 46 outreach trips per quarter made in GBAO while only 3 trips were made in Sogd. This major gap between Sogd and GBAO in outreach and outpatients visits tends to reflect opposite approaches to the provision of primary health care. On one hand, the provision of primary care in GBAO seems chiefly concerned with outreach, as rural primary health care facilities in GBAO had the lowest outpatient visits per capita but the highest number of outreach trips. As previously mentioned, GBAO's highly dispersed population and mountainous terrain would tend to support this approach to the provision of primary health care. On the hand, the data shows that provision of primary health care in Sogd came primarily through fixed facilities, as rural primary health care facilities in Sogd had the highest outpatient visits per capita but the lowest outreach trips.

Table 5.29: Number of Trips for Outreach per Quarter by Facility and Oblast (Percent)

Type	Oblast										Urban/Rural				Total	
	Dushanbe		Sogd		Khatlon		RRP		GBAO		Urban		Rural			
	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
CRH			100%	21	91%	15	83%	43	100%	8	100%	20	80%	24	93%	21
Other Hos	25%	14	50%	3	50%	3		.	100%	3	57%	4	100%	2	59%	4
Polyclinics	0%		50%	4	100%	7	50%	36	50%	1	40%	11	67%	4	44%	9
SUB			60%	36	20%	35	40%	29	100%	16	50%	60	44%	28	44%	31
SVA			35%	11	35%	5	57%	22	50%	7		.	41%	12	41%	12
Medical H			20%	3	15%	6	26%	35	53%	46		.	22%	22	22%	22
Other			67%	5	0%		100%	22	0%		25%	8	67%	12	43%	10
Total	10%	14	39%	13	31%	9	41%	31	68%	21	63%	14	32%	19	38%	18

Source: Tajikistan Health PETS 2006

5.71 ***Supervision. CRH and SUB provided the majority of supervision visits and GBAO was the region that provided least supervision.*** In terms of supervision visits by facilities, the data show some trends across type of facilities and regions. Per types of facilities, as expected CRH and SUB provided the bulk of supervision visits with 89 percent of CRH and 78 percent of SUB involved in supervision. Medical houses, as expected, did not provide any supervision as they are the lowest level facilities in the health system. Variation in supervision between urban and rural facilities is also visible with a higher percentage of urban facilities (67 percent) providing supervision than rural facilities (23 percent). This difference between the percentage of urban and rural facilities that provide supervision could, however, be a product of the PETS sample. Because 60 percent of the rural facilities in the PETS sample are medical houses and these do not do supervision, a very low percentage of rural facilities would be seen as providing supervision. However, when only those rural facilities that should be responsible for supervision (CRH and SUB) are analyzed, the data shows that, even though the percentage is still lower for rural than urban facilities, the difference is not significant. Regionally, Sogd, RRS, and Khatlon had the same percentage of facilities providing supervision with 38 percent, 35 percent, and 31 percent, respectively. Comparatively, Dushanbe and GBAO had the lowest percentage of facilities providing supervision of facilities.

5.72 ***Furthermore, GBAO not only had the lowest percentage of facilities providing supervision but these facilities also provided the least number of trips per quarter on average.*** Facilities in GBAO on average made 6 supervision trips per quarter while other regions made more than twice that number of trips, ranging from 14 to 17 trips per quarter. The most surprising difference between GBAO and the rest of the regions is the significant difference between supervision trips provided by CRH in GBAO as compared to other regions. Only 33 percent of the CRH in GBAO provided supervision and on average made 4 trips per quarter; in Sogd, for example, 100 percent of CRH provided supervision and made 29 trips per quarter on average. Additionally, there is a significant difference in the number of trips between the two main types of facilities that provide supervision. CRH on average made double the amount of supervision trips (24) than SUB (12). However, there is no difference between rural and urban facilities in the number of supervision trips. Urban facilities made on average 16 supervision trips per quarter and rural facilities made 15. The national average of number of supervision trips in the PETS facilities was also 16.

Table 5.30: Facilities that Provided Supervision by Facility and Oblast and Number of Trips per Quarter (Percent)

Type	Oblast										Urban/Rural				Total	
	Dushanbe		Sogd		Khatlon		RRP		GBAO		Urban		Rural			
	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
CRH			100%	29	91%	26	100%	20	33%	4	94%	24	80%	24	89%	24
Other Hos	25%	16	100%	10	75%	10		.	17%	3	57%	10	0%		55%	10
Polyclinics	17%	12	75%	9	75%	3	50%	36	0%		47%	12	33%	3	44%	10
SUB			100%	13	60%	14	80%	8	50%	4	100%	7	76%	12	78%	12
SVA			35%	9	46%	20	71%	14	50%	15		.	49%	15	49%	15
Medical H			0%		2%	4	0%		0%			.	1%	4	1%	4
Other			67%	3	50%	10	100%	22	0%		50%	8	67%	11	57%	10
Total	20%	14	38%	15	31%	17	35%	16	13%	6	67%	16	23%	15	32%	16

Source: Tajikistan Health PETS 2006.

5.73 ***Trips to CRH.*** The most unexpected finding regarding trips was the great number of trips that facilities make to the CRH. The data shows that 81 percent of the facilities had to visit the CRH on average 14 times per quarter or more than one trip per week. ***Almost all SUB (96 percent), SVA (98 percent), and a significant number of medical house (86 percent) had to visit the CRH on a regular basis***. ***Consequently, the percentage of rural facilities (85 percent) that had to visit the CRH is almost 3 times higher than that of urban facilities (28 percent).*** The only exception seems to be RRS with only 80 percent of the SUB and 66 percent of the medical houses visiting the CRH compared with visits in the other regions that were 100 percent and over 90 percent, respectively. When analyzed by region, the regions with the lowest percentage of facilities visiting the CRH are Dushanbe (10 percent); GBAO (61 percent), Khatlon (79 percent), and Sogd (86 percent) had the highest. Interestingly, for those urban facilities that had to visit the CRH, the number of trips per quarter (28) is more than double the number of trips of rural facilities (12). Polyclinics had significantly more visits per quarter (41) than any other type of facility and three times the national average. Urban facilities also had twice the number of visits to CRH per quarter than rural facilities, mainly due to the impact of a significant number of trips of polyclinics.

5.74 When analyzed by region the data also show great variation among different regions. For example, GBAO facilities had the least visits to CRH as a region with 6 visits and also by each type of facility, while RRP facilities had almost 3 times the number outreach trips with 16 visits per quarter.[43] However, when the distance to the CRH is factored in, the situation becomes very different given that in GBAO facilities are on average 30km away from the CRH while in Khatlon they are 18km away. The data also shows that actually the facilities farthest away are the ones that visit the CRH. The average distance between facility and the CRH of those facilities that visit CRH is 22km, while the average distance of those facilities that do not visit the CRH is less than half that at 9km. The largest difference in the distance between the facility and the CRH among facilities that visited the CRH and those that did not was in GBAO, where those that visited had to travel an average 30km while those that did not were only 3km away.

5.75 ***The significant percentage of facilities, particularly rural primary care facilities that must make at least one trip per week to the CRH draws into question the efficiency of the sector. Not only must the cost of transport be taken into consideration but also the time that the health worker(s) must waste in transit.*** Furthermore, since these rural primary health care facilities do not have transport or government funding for it, it raises the question of whether health workers are using their own funds to subsidize the cost of these weekly trips.

[43] In fact, Dushanbe has the highest number but the sample is very small.

Table 5.31: Trips to CRH Made by Facilities
(Number of Trips per Quarter and Percent)

Type	Oblast										Urban/Rural				Total	
	Dushanbe		Sogd		Khatlon		RRP		GBAO		Urban		Rural			
	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
Other Hos	25%	24	100%	21	25%	24		.	17%	1	33%	22	100%	1	36%	20
Polyclinics	0%	.	100%	40	50%	36	50%	60	0%	.	40%	44	33%	24	39%	41
SUB		.	100%	11	100%	16	80%	11	100%	2	100%	16	96%	12	96%	12
SVA		.	100%	15	100%	16	93%	21	100%	7		.	98%	17	98%	17
Medical H		.	95%	12	89%	10	66%	12	93%	7		.	86%	11	86%	11
Other		.	33%	10	50%	8	0%	.	0%	.	50%	9	0%	.	29%	9
Total	10%	24	86%	14	79%	13	65%	16	61%	6	28%	28	85%	12	81%	14

Source: Tajikistan Health PETS 2006.

5.76 ***Financing for outreach, supervision, and trips to CRH.*** As mentioned in the previous section, only a limited number of facilities received funds for fuel and transportation. The questionnaire asked those facilities that performed these activities whether they received funding to support these trips. Again, an underlying commonality was that these trips were extremely under funded. Only 32 percent of the facilities that provided outreach reported receiving funds for fuel/transportation for outreach activities. Interestingly, those facilities that did not receive funds for outreach on average made more outreach trips per quarter (19) than those facilities that did receive funding (14). The PETS sample showed that even less facilities received funding to support supervision. Only 16 percent of the facilities that provided supervision reported receiving funds for fuel/transportation to perform these activities. For supervision activities, those facilities that did receive funding on average made more trips per quarter (19) than those that did not receive funding (15). However, the fact that only 16 percent of the facilities received funding for supervision implies that this activity is very under funded and brings into questions the ability of these facilities to perform this task.

5.77 ***Finally, only 6 percent of the facilities that visit the CRH reported receiving funds/transportation for fuel for these visits.*** Again, since almost 75 percent of the sampled facilities had to visit the CRH, this provides a stark comparison of the need versus the actual financing received. As with supervision, facilities that received funding to support the trips to the CRH on average made more trips per quarter (16) than those facilities that did not receive funding (13). Overall, it is astounding that only very few facilities received funding to support these critical activities, particularly outreach and supervision. The lack of financial support raises serious concerns about the value being placed on these activities. Furthermore, the rationale for requesting facility visits to the CRH more than once per week on average is murky given that facilities don't receive funding to support the trips.

D. RELATIONSHIP BETWEEN INPUTS AND SERVICE OUTPUTS

5.78 ***The analysis of the relationship of key health inputs (beds and doctors) with needs (population) demonstrates that there was not a strong relationship in the allocation of inputs with needs.*** There is a non-linear relation between the number of beds and the population. The coefficient on the linear term is significant but close to zero meaning that the linear relation is not strong. However, the coefficient on the square root term is positive meaning that the additional increase in the number of beds decreases as the population increases. The number of beds is lower in Gbao and Dushanbe. However, this might be reflecting a sample bias because only 5 facilities in Dushanbe have beds while 42 facilities in Khatlon have beds. In terms of doctors and paramedics, the relation with the population is the same as for the number of beds. This might be reflecting the fact that facilities with more beds are bigger and likely to have more doctors.

5.79 ***The analysis of the relationship of the health inputs with relevant outputs demonstrates that the number of outpatient visits is not determined by major inputs for health services but rather depends more on regional factors and the type of facility.*** For this purpose, OLS regression is employed to explore the sources of variation in number of outpatient visits per PHC facility per 100 population with respect to 5 types of outpatient health care services. The results for basic specification are presented in Table 5.32. Interestingly, almost all of the major inputs for health services after controlling for type of facility, region, access to basic utilities and some other variables appear to be not significant in determining the number of outpatient visits per PHC health facility. According to the results, the number of outpatient visits depend more on regional factors and type of facility.

5.80 ***The qualification of health care providers significantly impacted the number of outpatient for pediatric care and family planning.*** An expanded model, which includes interaction effects between the number of doctors per specific type of facility along with interaction effects between a type of facility and amount of received drugs per facility, is displayed in Table 5.33. The idea is to test whether having a doctor at a MD, which is not generally the case in reality, and allocation of drugs to MD determine the flow of patients or not. It should be noted that the previous model shows that the coefficients for drugs, doctors and MDs are not significant in explaining the variation in the number of outpatient visits. The results suggest that doctors working at MD do have an impact on the flow of patients in 3 out of 5 types of health care. For pediatric care and family planning the coefficient are both quite big and very strongly significant. However, for latter the negative impact of the interaction effect is partly offset by positive significant impact of doctors and MD variables. The compound effect of having additional drugs worth of 100 Somoni at MD is statistically significant at the level of 10 percent for burn treatment and pediatric care. So, controlling for other inputs and variables, the number of outpatient visits related to pediatric care to a MD with a doctor would be less by on average 14.6 visits per 100 population compared with reference case that is SVA.

Table 5.32: Basic Specification of OLS model for the Determinants of the Number of Outpatient Visits per PHC facility per 100 Population with respect to 5 Different Types of Health Care

Variable \ Type of Service Delivery	Diarrhea treatment	Burn treatment	Family planning	Infectious diseases (no HIV/AIDS)	Pediatric care
budget for drugs (in 100 Smn.)	-0.018	0	-0.008	0.016	-0.285
	(0.02)	(0.00)	(0.03)	(0.02)	(0.35)
budget for fuel (in 100 Smn.)	0.131	0.019	-0.519	0.424	-1.068
	(0.37)	(0.01)	(1.02)	(0.59)	(2.53)
budget for other items (in 100 Smn.)	0.016	-0.001	-0.001	**-0.050****	0.055
	(0.02)	-	(0.02)	(0.02)	(0.14)
doctors	0.041	0.004	-0.409	-0.12	2.06
	(0.09)	(0.01)	(0.25)	(0.19)	(2.42)
nurses/feldshers	-0.059	**-0.010*****	0.348	**-0.387****	-0.908
	(0.09)	(0.00)	(0.32)	(0.14)	(0.90)
other med. staff	0.184	0.01	0.594	0.666	-0.11
	(0.20)	(0.01)	(0.49)	(0.49)	(2.25)
access to electricity	-3.872	-0.044	2.603	3.633	0.628
	(6.63)	(0.14)	(2.69)	(3.50)	(10.44)
access to heating	0.44	-0.029	**-5.300***	0.034	-0.305
	(2.08)	(0.07)	(2.71)	(3.43)	(4.68)
access to water	-0.057	0.027	1.986	7.228	8.066
	(1.82)	(0.08)	(3.38)	(4.64)	(5.25)
Informal Payment (in Smn.)	-0.097	-0.003	0.459	**-0.183***	0.122
	(0.09)	(0.00)	(0.38)	(0.10)	(0.86)
Facility = SVA (reference)					
Facility = Policlinic	**-6.886****	-0.115	**-8.151***	-3.631	-0.507
	(2.78)	(0.20)	(4.09)	(4.06)	(35.81)
Facility = MD	2.389	0.137	1.794	0.655	-5.288
	(2.35)	(0.09)	(2.72)	(2.34)	(7.35)
Facility = SUB (rural hospital)	-3.945	**-0.247****	**-7.967***	**-11.306*****	3.804
	(3.01)	(0.11)	(4.19)	(3.97)	(14.82)
distance to CRH	-0.028	0.004	0.021	**0.100***	-0.102
	(0.04)	(0.00)	(0.06)	(0.05)	(0.07)
number of outreach visits	-0.022	-0.003	0.003	0.061	-0.202
	-0.028	-0.002	-0.055	-0.049	-0.137
Region = Dushanbe (reference)					
region = Sogd	2.967	0.117	4.804	-11.848	121.064
	(5.83)	(0.26)	(12.51)	(11.83)	(108.90)
region = Khatlon	10.179	0.014	-5.902	-10.829	100.812
	(6.38)	(0.24)	(12.42)	(12.53)	(106.53)
region = RRS	**9.403***	-0.019	0.613	-6.592	116.413
	(5.36)	(0.21)	(11.65)	(9.83)	(106.93)
region = GBAO	1.929	0.155	-1.603	-10.096	98.492
	(6.54)	(0.19)	(12.15)	(10.56)	(107.05)
Rural area	-3.079	**-0.196***	2.087	-12.053	-65.839
	(3.70)	(0.10)	(6.92)	(10.18)	(70.65)
Constant	7.205	**0.461****	7.25	**23.390****	-9.524
	(10.49)	(0.20)	(13.41)	(10.48)	(57.72)
Observations	229	132	202	167	230
R-squared	0.14	0.14	0.09	0.18	0.17

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Tajikistan Health PETS 2005

Table 5.33: Expanded Specification of OLS model for the Determinants of the Number of Outpatient Visits per PHC facility per 100 Population with respect to 5 Different Types of Health Care

Variable \ Type of Service Delivery	Diarrhea treatment	Burn treatment	Family planning	Infectious diseases (no HIV/AIDS)	Pediatric care
Doctors x facility = SVA (reference)					
Doctors x facility = MD	**-2.839***	-0.02	**-16.693*****	-5.707	**-31.344*****
	(1.66)	(0.29)	(3.95)	(3.75)	(7.66)
Doctors x facility = Policlinic	0.125	-0.073	-0.845	**1.793****	**-5.016***
	(0.83)	(0.08)	(1.22)	(0.79)	(2.89)
Doctors x facility = SUB	0.422	-0.088	0.094	1.537	6.348
	(0.98)	(0.09)	(1.50)	(0.92)	(7.63)
drugs (in 100 Smn) x facility = SVA (reference)					
drugs (in 100 Smn) x facility = MD	-0.102	**0.114***	-1.348	-1.509	**-8.472***
	(0.94)	(0.06)	(1.52)	(1.04)	(4.15)
drugs (in 100 Smn) x facility = Policlinic	0.576	**0.098***	-0.313	-0.378	-3.117
	(0.40)	(0.06)	(0.89)	(0.43)	(3.03)
drugs (in 100 Smn) x facility = SUB	0.555	**0.100***	-0.49	-0.456	-2.492
	(0.39)	(0.06)	(0.92)	(0.41)	(2.93)
budget for drugs (in 100 Smn.)	-0.591	**-0.097***	0.297	0.384	2.868
	(0.40)	(0.06)	(0.89)	(0.43)	(3.04)
budget for fuel (in 100 Smn.)	-0.025	0.026	-0.671	0.267	-3.087
	(0.40)	(0.02)	(0.94)	(0.67)	(3.82)
budget for other items (in 100 Smn.)	0.019	-0.001	0.015	-0.036	0.057
	(0.02)	(0.00)	(0.03)	(0.02)	(0.14)
doctors	-0.06	0.072	0.611	**-1.841****	**7.647*****
	(0.82)	(0.08)	(1.24)	(0.83)	(2.46)
nurses/feldshers	-0.034	**-0.009*****	0.273	**-0.317****	-1.043
	(0.10)	(0.00)	(0.32)	(0.12)	(0.82)
other med. staff	0.066	**0.017***	0.298	0.532	-2.989
	(0.28)	(0.01)	(0.53)	(0.56)	(3.24)
access to electricity	-4.087	-0.03	3.316	3.257	2.506
	(6.77)	(0.14)	(2.70)	(3.37)	(10.19)
access to heating	0.81	-0.055	**-5.365****	0.425	-0.569
	(2.31)	(0.06)	(2.43)	(3.53)	(5.44)
access to water	0.041	0.034	1.651	7.117	5.518
	(1.78)	(0.08)	(3.39)	(4.64)	(5.98)
Amount of Informal Payment (in Smn.)	-0.067	-0.004	0.662	**-0.183***	0.375
	(0.09)	(0.01)	(0.40)	(0.10)	(0.80)
Facility = SVA (reference)					
Facility = Policlinic	**-9.110*****	-0.075	-6.618	-8.708	13.081
	(3.17)	(0.14)	(5.80)	(5.23)	(29.38)
Facility = MD	1.789	0.128	5.821	-0.74	**13.369***
	(2.72)	(0.12)	(4.91)	(2.76)	(7.71)
Facility = SUB (rural hospital)	**-5.613***	-0.233	-5.297	**-11.397*****	-20.383
	(2.89)	(0.16)	(5.08)	(3.35)	(22.51)
distance to CRH	-0.036	0.004	-0.013	0.072	-0.082
	(0.04)	(0.00)	(0.06)	(0.06)	(0.08)
number of outreach visits	-0.031	-0.003	-0.029	0.066	**-0.426****
	(0.04)	(0.00)	(0.07)	(0.05)	(0.18)
Region = Dushanbe (reference)					
region = Sogd	4.799	-0.163	13.767	-6.263	128.144
	(5.90)	(0.26)	(11.38)	(10.58)	(112.35)
region = Khatlon	11.417	-0.273	1.927	-6.915	110.143
	(7.12)	(0.32)	(11.89)	(11.76)	(110.31)
region = RRS	**11.358***	-0.296	9.66	-1.168	126.062
	(5.87)	(0.30)	(11.58)	(9.52)	(110.35)
region = GBAO	3.178	-0.118	7.086	-6.75	117.08
	(6.49)	(0.32)	(12.28)	(9.81)	(112.00)
Rural area	-3.393	-0.118	-1.157	-11.115	-95.284
	(3.19)	(0.12)	(6.59)	(10.00)	(74.12)
Constant	7.295	**0.636****	-0.175	**20.991****	-2.316
	(10.42)	(0.24)	(13.70)	(9.48)	(49.02)
Observations	229	132	202	167	230
R-squared	0.14	0.17	0.12	0.2	0.27

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Tajikistan Health PETS 2005

E. CASE STUDY OF IMMUNIZATION SERVICES[44]

5.81 ***As one of the main primary health care services in Tajikistan, analysis of the immunization program was conducted to probe further into patterns of resource allocation and disbursement of funding to frontline providers.*** The national program is led by the Republican Center for Immunoprophylaxis (RepCI), which has six regional branches (RepCIs) in Dushanbe, Khatlon, Sogd, GBAO, Kuliab zone of Khatlon region (Kuliab City), and Rasht valley. At the rayon level, RayCIs are located at central rayon hospitals (CRH), and they are responsible for planning, provision of vaccines and supplies, facilitation of outreach activities, cold chain monitoring, and reporting to higher levels. Rayons coordinate their activities with the RepCIs but are financed by CRH budgets. Immunization services are provided primarily by PHC facilities and maternity units, through policlinics, SUBs, SVAs, and medical houses.

5.82 ***The immunization analysis comprised two approaches. First, an evaluation was made of the vertical immunization program which receives donor funding***. Second, a specific module relating to immunization services was included in the Health PETS questionnaire. The main findings of both the vertical program evaluation and the weighted survey analysis are the following.

5.83 ***Planning and budgeting.*** Budget formulation is primarily a top-down process: the RepCI submits a lump-sum budget proposal to the MOH reflecting regional and central level needs. The total NIP request is between 2.5 to 3 times higher than the previous years' budget. The norm-based budgeting process is outdated and does not consider local needs or actual costs for providing immunization services. Only two facilities reported preparing a budget for immunization in for 2005. While it was not possible to evaluate leakage because of limited information on immunization budgets, there appears to be large discretionary power at the RepCI in terms of staffing and resource allocation, as will be discussed below.

5.84 ***Allocation for Immunization***. 36 percent of the total RepCI budget remains at central level, with the remaining 64 percent allocated to regions by the central level. ***Analysis of regional budget allocations reveal inequities that cannot be explained by variation in need (children less than one year), service delivery requirements (facilities or staff), or performance (DTP3 doses given or coverage rates).*** Donor funding of the NIP passes through the RepCI and is programmed and allocated to regions and rayons at this level. Each region receives $17,000 per year on average. ***There is wide variation in allocation of donor financing across regions. Dushanbe receives most of the regional resources-- $43,000 in 2005 compared to $4000 in GBAO.*** The allocation per facility in the best funded region (Dushanbe) is 155 times more than in the worst funded region (Sodg).

5.85 ***Financing.*** The donors for the NIP include UNICEF, JICA, WHO, AKHS, Merlin, and the GAVI Alliance. 95 percent of the NIP is donor funded, with the government financing less than 3 percent of requirements over the period 2002-2005. Donor funding is volatile from year to year leading to insecurity about vaccine procurement and sustainability issues. While the total cost of the program increased from $570,839 in 2002 to $1.5 million in 2005, operational costs have remained flat over time, representing between 11 percent and 18 percent of the total RepCI budget for immunization. Operational expenses are highly under-funded., and critical activities, such as outreach occur if financed by donor financing. Of the total GAVI cash support received by the government, only 8.5 percent is allocated to the regions, with the remaining funds staying

[44] Further details can be obtained from Brenzel, L. et al, Immunization Resource Tracking: Case Study of Tajikistan, forthcoming (2007).

at central level. 52 percent of the GAVI funding was used for capital equipment. Only 1.4 percent of GAVI funding was used for outreach, and 2.7 percent was used for fuel and cold chain maintenance, critical inputs for service delivery in remote areas of low coverage. Further analysis shows that GAVI ISS funding was not allocated on the basis of improving the resource balance across regions, nor was it allocated to compensate for lower immunization coverage.

5.86 ***Staffing***. The mean number of health workers involved in immunization activities was 2.4 per facility, ranging from 4.7 workers in polyclinics to 1.6 workers in medical houses. Dushanbe facilities reported the highest number of workers (4 on average), and GBAO the lowest (1.9). There were significantly more workers, including doctors involved in immunization services ($p>0.001$) in non-PHC facilities (e.g., hospitals and polyclinics). While there were more MDs working on immunization in non-PHC settings, more MDs were providing vaccinations (giving shots) in PHC settings than in their counterparts (0.88 vs. 0.57)—weakly significant ($p<0.06$). The mean number of hours spent on immunization per day in the facility sample was 1.86 hours. Staff (doctors and nurses) spent significantly more time in non-PHC facilities on immunization services than in PHC settings ($p>0.0001$) hours vs. 8.1 hours).

5.87 ***Out-of-pocket (OOP) expenditures by health staff. The survey results revealed a substantial number of trips taken by facility staff for supervision and seminars/meetings.*** The average number of outreach and supervision trips taken per year was 25.2, the average number of trips for meetings was 14.8 per year, and vaccine was collected 12.6 times per year. The number of trips for supervision, outreach, and vaccine collection were significantly higher for non-PHC facilities. ***There are significant out-of-pocket expenditures made by immunization staff.*** Out-of-pocket payments by staff were the main source of financing for outreach (92 percent of sample), supervision (88 percent) and vaccine collection (96 percent). OOP payments for outreach were most common for lower level health facilities; whereas, facility budget was used to cover these costs for CRHs. The total mean value of expenses made out of pocket for vaccine collection was S113.33 or $32.93. The range was from S5 to S1,620 ($1.5 to $471). OOP expenses for vaccine collection were highest for RRP oblast (S171.65) and lowest for GBAO (S73). OOP expenses were significantly higher for the sample of non-PHCs ($p>0.001$). Significant OOP expenditures by staff are an indication of how under-funded the operational budget is for immunization services. Payment out-of-pocket may be tolerated by staff because they are allocated additional stavkas, potentially to cover any additional needed expenditures. If this is the case, then staffing reform needs to go hand-in-hand with reforms in budgeting for operational costs.

5.88 ***Estimated resources needed for immunization.*** An analysis was done comparing the estimated resource requirements for the immunization program in each facility based on vaccines and supplies used, travel taken, out-of-pocket expenditures, cold chain and other equipment costs, and training costs. Estimates were made of recurrent and capital requirements (cold chain). These values were compared to estimates of total public funding available to a facility. The mean resource requirement was 6,000 Somonis. ***Requirements were highest for CRH (S18,700) and lowest for medical houses (S826).*** Resource requirements were significantly higher among non-PHC facilities ($p>0.0000$) and urban facilities ($p>0.01$). Resource requirements reflected 10 percent of total public resources available to CRHs, but 443 percent of resources available to SVAs. For primary health care facilities overall, total resource requirements were three times higher than total available public resources. If capital costs are removed from the analysis, immunization requirements represent 3 percent of non-PHC facilities, but 212 percent of PHC facility public resources. These results are significant ($p<0.03$). Rural facilities have a significantly higher resource requirement compared to available funding ($p<0.09$). ***RRS and***

Sodg oblasts have the greatest imbalances between requirements and public resources available.

5.89 ***Performance of the immunization program***. For the last five years, official immunization coverage rates have been reported officially as over 90 percent for all EPI antigens. However, there are serious concerns that these figures are overestimated because of gaps in birth registration and deficiencies in coverage calculation. ***There is no standardized procedure for defining the appropriate denominator for different antigens, which contributes to inaccuracy of coverage figures.*** In addition, the State Statistical Department estimates 26,000 more children less than one year of age than is used by the NIP to determine coverage. In the survey sample, ***25 percent of facilities were unable to provide immunizations in 2005 due to shortages of vaccines.*** 53 percent of facilities reported shortages for BCG, 34 percent for DTP, 31 percent for OPV, 17 percent for measles, and 4 percent for hepatitis B. On average, ***facilities were without vaccines for six weeks in 2005,*** ranging from 8 weeks for hepatitis B to 4 weeks for OPV. Shortages were longer for non-PHCs. The most frequent months during the year without vaccines are September (24 percent of sample), August (18 percent), June (12.5 percent), and October (12.5 percent).

5.90 ***An evaluation was conducted to ascertain the factors that contributed to immunization performance in Tajikistan based on survey results***. Performance (DTP3 doses given) was thought to be related to staff time, type of facility, total travel for outreach and supervision, total resources, GAVI resources provided to the facility, and distance to collect vaccine. The model has an R^2 of 0.55. Total resources, hours spent on immunization per day, type of facility, whether vaccine is collected at the RepCI, value of in-kind donations, public funding, and distance to collect vaccine were all significantly associated with DTP3 doses provided. Interestingly, hours spent per day, total trips and in-kind donations were negatively related to performance, perhaps suggesting that these activities and resources are not spent in productive uses. GAVI contributions were insignificantly related to performance.

5.91 ***The PETS health highlights issues related to budget management, human resource, and other inputs for service delivery***. On budget management, the PETS tracks resource flows from the rayon to individual health facilities via jamoat and central rayon hospital. At each level of local administration, PETS examines inter-regional, inter-sectoral as well as intra-sectoral allocation of public resource for health. The PETS also examines formal versus informal budget rules in budget management that provide discretion power to local authorities at the oblast, rayon, central rayon hospital, jamoat, and health facility levels. Additionally, it also attempts to track the amount of resource received by health service delivery units.

5.92 On human resource, the PETS examines characteristics of health care providers; staff remuneration and allocation of floating stavkas; absenteeism; salaries, staff morale, and coping mechanisms; and fees for medical services. With regard to other inputs for service delivery, the PETS examines availability of drugs, medical equipment, communal services (gas, electricity, heating, etc), travel, and medical infrastructure, and relate them to the quantity of service delivery. The following sections summarize key findings of the foregoing analyses and proposed recommendations that would contribute to improved health service delivery in Tajikistan.

6. CONCLUSIONS AND RECOMMENDATIONS

A. MANAGEMENT OF THE HEALTH BUDGET

Conclusions

Resource Allocation in the Health Sector

6.1 ***The PETS findings underscore a low level of health financing compared to other sectors at all levels***. Public health spending in 2005 was much lower than spending on education at both the national and local levels; it amounted to about one-third of education spending at a local level on the average. Further, the health sector gained additional resource during the in-year budget revision less than other sectors (housing and communal services and general public administration). Finally, under-execution of the health budget indicates that the approved health funds might be reallocated to other sectors.

6.2 ***Health spending emphasized hospital services as it accounted for 70 percent of local governments' health budget at the oblast, rayon, and city levels***. Primary health care facilities (medical houses, FAPs, SUBs, SVAs, and Polyclinics) received residual allocation for non-wage expenditure from the central rayon or city hospitals because their operations are considered as an integral part of the hospital's network in the rayon or city.

6.3 Wage bill accounted for more than about, respectively 40 and 50 percent of allocated health fund at the oblast and rayon levels. Health facilities usually received wage and salary as approved because it was protected expenditure category according to the Law on State Finance. The share of wage in total expenditure at the facility level was unidentified as the PETS could not capture total resource approved or executed for health facilities, except the budget of the central rayon hospitals. On average, the CRH allocated 40 percent of public resource for wage, followed by communal services, food, repair and maintenance, and medicine and dressing materials. However, other types of facilities spent budgetary resource on wage and salaries, while resource for non-wage inputs depended on availability of inputs provisioned by the CRHs or jamoats.

6.4 ***Resource allocation in the health sector was inequitable across regions***. At the oblast level, the allocation was in favor of GBAO. Further, there was no correlation between the amount of resource allocated and poverty rate at the rayon.

Management of Budgetary Resource

6.5 ***The budget was formulated at rayon level most of the time based on the budget requests submitted by health facilities***. The rayon chairman played an important role in budget allocation as they negotiated the budget directly with various branches of the rayon economy and with the oblasts. The budget was approved by the Rayon Council and it was published in details by line item expenditure and functions but not by individual health facilities.

6.6 ***The rayon budget was generally amended during the year due to better tax collection than originally forecasted, thus inhibited health facilities to plan their spending as they did not know the additional amount that they would receive during the year.*** However, the health sector received the least allocation compared to other sectors during the revision in 2005. The additional health fund was diverted to hospital services, with an exception of the Sogd oblast.

Repair and maintenance was given priority in receiving getting more resource during the year. The jamoat health budget that financed mostly polyclinics did not get additional resource during the budget revision in 2005.

6.7 ***The rayon health budget was executed through the CRHs (and also rayon health department) and jamoats. Health facilities received financing from various sources including from the oblast, rayon, CRH, and jamoat depending on the level of their financial subordination; however, the CRH was the major financier of health facilities***. Wage and salary for the health sector was paid in cash to the CRH and the jamoat, while non-wage expenditures were paid mostly in kinds to health facilities. The in-kinds inputs were associated with provisioning of goods and services (drugs, food, medical supplies and equipment) and the CRHs were the key providers of in-kind support to the majority of health facilities. Communal services were directly paid by the rayons to suppliers.

6.8 ***Besides budgetary resources, the health sector received in-kinds contributions directly from donors including local business enterprises and communities.*** The CRHs received in-kind inputs from non-budgetary source more than other types of health facilities. Most of the in-kind inputs were food.

6.9 ***Rayons, jamoats, and CRHs prepared end-year financial reports on budget execution and submitted to the higher levels of government in 2005; while health facilities other than CRHs did not prepare financial reports on budget execution.*** However, health facilities and local government at all levels (rayons and jamoats) have no records on the value of financial and in-kinds resources provided by other donors or local communities and on the utilization of such resources. They also indicated that the annual budget report was frequently audited by the State Financial Control and the internal audit unit.

6.10 ***The PETS found a few obstacles to the flow of fund to front line service delivery units***. First, they experienced a delay in payments of wage and salary in 2005 and the delay lasted longer at the health facility level, especially in Sogd. Fewer respondents reported that they did not receive the entire amount of wages and salaries in 2005. Secondly, the under-execution of the health budget implies that the approved fund failed to reach service delivery units because they could be reallocated to other sectors. Finally, shortfalls of revenue did not seem to be an obstacle to the flows of fund as rayons had collect more tax revenues than the forecast and the health sector received more allocation during the year.

6.11 ***However, the PETS cannot verify how much non-wage inputs reached front line service delivery units***. A lack of an approved budget for non-wage inputs for individual health facilities hinders a quantitative analysis of fund that did not reach health facilities. Further, the estimated value of in-kinds inputs received by health facilities is unreliable due to poor record keepings of the quantity and value of inputs received by individual facilities.

Discretion of Budget Managers

6.12 ***Local governments had more flexibility in managing their budget because of its ability to collect and retain their own local taxes and the share-tax without sending all revenue back to the central treasury***. Further, the ability to retain excess revenue over the forecast provided greater scope to local governments to spend additional revenues on other priorities that were left out at the beginning of the year. They are empowered to make final resource allocation to various sectors at the beginning of the year, reallocate additional revenue to various sectors during the year, and reallocate resource across sectors and line-item expenditures. Such power varying in

degree was exercised by the rayon Chairman, the Chief Doctor of central rayon hospital and jamoat Chairman. The rayon Chairman decided on allocation of resource among various sectors. The Chief Doctor decided on allocation of workloads to health care personnel and non-wage inputs to various types of health facilities within the CRH's network. The jamoat Chairman distributed wage and salary and decided on allocation of resource among polyclinic services.

6.13 ***The PETS found that local governments at the lowest level had limited knowledge on formal budget rules concerning budget reallocations and execution***. Specifically, respondents at the jamoat and facility levels had limited knowledge on budget rules and procedures. For example, most of the respondents did not know that the unspent funds must be returned to the Treasury at the end of the year. This, in turn, likely increased scope for discretion in budget management at a higher level.

6.14 ***Discretion in allocating the health funds differed at various levels (rayon, jamoat, CRH, and health facilities).*** The rayon chairman appears to have greater discretion in the allocation for each line item, reallocation of the fund from the health sector to other sectors during the execution, and reallocation of unspent health funds for other purposes. Similarly, the chief doctors of CRHs had discretion in personnel management (hiring and firing), allocating floating stavkas for bonus, incentive, over-time of health workers, and reallocating budgetary fund from other health care services (polyclinics and public health affairs services) to hospital cares. The heads of health facilities appeared to have limited discretion in budget management as they had limited fund to manage.

Options to Improve the Management of Health Budget

6.15 ***The PETS on health highlights some deficiencies in the current budget management system and practices at the local level.*** These deficiencies lie in adequacy of resource allocation to health facilities, budget management (budget preparation, execution, and reporting), transparency and accountability. These impact the efficiency of resource allocation and thereby service quality. The PETS recommend the following:

- Increase allocation to primary health care facilities to ensure that other basic inputs are appropriately financed so that health personnel are able to provide quality health care to citizens;

- The government has already begun separating the budget for primary health care from hospital services in pilot rayons to ensure that their allocated resources will not be captured for hospital services. It is important that this effort sustains by accompanying with training of health staffs on financial management and accounting.

- Improve disseminate of budget information to include the breakdown not only by line economic and functional classification but also by individual health facilities. Such information will also help them in the planning of service delivery activities. Given that the government is planning to gradually implement per capita financing, health facilities should have a legal status and autonomy to manage their own budgets over the long-run.

- Encourage health facilities at all level to regularly keep records of budgetary and non-budgetary fund received and spent. Health facilities should keep record of the amount of cash received for payments of wage and salary and the quantity and value of goods and services received from the budgetary sources (central rayon hospitals and jamoats). Similarly, they should keep records of non-budgetary resource (the amount of fund

received in cash and the value and quantity of goods) that they received from donors, businesses, and local community.

- Train the health facility staffs that are responsible for budgeting and financing on the budget laws (rules and procedures) and basic financial management and accounting. If jamoats continue to be involved in distributing health resources, this training should be applied to financial officers at the jamoat level as well. Such training can be supported by the World Bank's Community and Basic Health Project.

- Develop transparent guidelines and process for budget preparation and execution, especially reallocation of expenditure during the execution and publish them widely at all levels of local governments and types of health facilities.

B. HUMAN RESOURCE MANAGEMENT

Conclusions

6.16 ***The Tajikistan Health PETS findings on human resource are consistent with findings on budget allocation in terms of significant regional variations.*** These variations are reflected in the characteristics of both health workers and facilities. The average Tajik health facility employs 24.4 people, with a peak in Dushanbe which averages 147.7 individuals per facility. Urban facilities are on average more than ten times bigger than rural ones. Tajikistan's health workforce is dominated by women (72.1 percent of all health workers). The facilities in GBAO and Dushanbe have the highest proportion of female employees with 82.2 and 75.6 percent respectively. The nurse to doctor ratio (NDR), a popular quality indicator, varies a great deal in Tajikistan. Although there is no standard or optimal NDR, the rule thumb ratio falls somewhere between 2 and 4. The national NDR is 2.08; it goes from a low 0.95 in Dushanbe, which has more doctors than nurses, to the national high of 2.71 nurses per doctor in GBAO.

6.17 ***The recent reforms undertaken by the GoT in the wage system have been successful at alleviating delays and almost eradicating arrears for protected salaries, at least in the health sector***. Except in Sogd where a little more than 40 percent of health workers experienced delays, almost all employees received their entire salary on time in the country. However, salaries are still very low in Tajikistan's health sector with an average monthly wage of 48 Somonis. There is a huge premium for working in Dushanbe, where the average total salary is more than twice the national average. Even hospital attendants in Dushanbe make more on average than doctors elsewhere in the country. This factor constitutes a powerful brake for any attempt to send doctors in remote areas and may partly explain the very high proportion of doctors per facility in Dushanbe and its very low nurse to doctor ratio.

6.18 ***Although official wages are low, there is a sizeable amount of unallocated funds in the rayon's wage budget which can be used to allocate extra stavkas or 'loads' or as bonuses for the staff***. The PETS findings show that the average facility has 12.7 extra stavkas of which only 7.9 were redistributed to the employees and the remaining 4.8 stavkas are unaccounted for. In Dushanbe there are on average 122.8 extra stavkas for the facility with 147.7 health workers. Doctors and nurses receive the highest numbers of extra stavkas. Men are more likely to be granted extra stavkas. Experience in the health sector and longevity in the facility also boost the chances of receiving extra stavkas.

6.19 ***The PETS clearly shows that the CRH director enjoys an impressive discretionary power over the allocation of stavkas.*** He is overwhelmingly perceived as the sole decider even by

the rayon administration. The CRH directors control therefore a sizeable share of the health sector salary budget. On top of their decision-making power on stavka allocation, the CRH director is also the single most powerful individual for hiring and firing decisions. High-level position such as doctors, administrators, and nurses are almost always filled by a person chosen by the CRH. More than 83 percent of interviewees at the rayon hukumat confirm this finding. The concentration of decision making powers into the hands of the CRH director may have unintended perverse effects such as eliminating any incentive to hire new health workers to fill vacancies. It may even reinforce the incentive to fire staff for no obvious reason. A more in-depth study is needed to shed more light on this issue.

6.20 ***Tajikistan's health workers perceive themselves as underpaid employees.*** The average salary considered as "fair" is 7.7 times higher than the actual average salary. Health workers usually develop coping strategies to make up for the difference. In Tajikistan, the PETS shows that both working outside the facility and informally charging patients are widespread phenomena. Approximately 18 percent of the health workers admit that they work outside the facility to supplement their low income. The highest moonlighting rate, 35 percent, is observed in the RRS which also have the lowest average salary. Doctors and administrative staff are more likely to hold a second job. Moonlighters mostly work in the agricultural sector, 54.8 percent, or privately provide health care, 27.8 percent.

6.21 ***Besides working outside the facility, almost half of the health workers admit to receiving informal payments (gifts in cash or in-kind) from patients to supplement their income.*** Informal payments are more prevalent in Dushanbe where 71.5 percent of workers engaged into that activity in the month preceding the survey, and among doctors 59.5 percent and nurses 50.4 percent. The average health worker is able to extract as much as 27.8 somonis per month from patients, with a peak of 123.9 somonis for doctors in Dushanbe.

6.22 ***Finally, the PETS finds that approximately 30 percent of the health workers were absent from the facility at the time of the survey.*** Controlling for facility and staff characteristics, health workers in rural areas are 31.3 percent more likely to be absent than their urban counterpart. Khatlon's employees are 7 percent less likely to be absent than workers in RRS, Sogd, and GBAO. Absenteeism rates are lower for medical houses, SVAs, and SUBs when compared to small polyclinics and other facilities. Interestingly, higher salaries and more stavkas reduce substantially the likelihood of absence.

Options to Improve Management of Human Resource Inputs

- Spending on wage and salary accounted for more than 50 percent of total health resource. Though the country has the right mix of nurses and doctors to meet the minimum ratio of 2:1, a reallocation of doctors from Dushanbe to other oblasts and from the polyclinics to other facilities is necessary to correct the strong imbalances that exist in the system.

- Given the amount of resources involved, the allocation mechanisms of extra stavkas should be reviewed to ensure transparency and accountability in the allocation of the stavkas. The heads of health facilities and jamoats could be more involved in the decision making on distribution of extra stavkas rather than leaving all the decisions to the chief doctors.

C. MANAGEMENT OF OTHER INPUTS AND SERVICE OUTPUTS

Conclusions

6.23 ***Other Inputs***. Primary health care facilities in the rural areas suffered form not having basic infrastructure in place as well as access to basic communal services, notably water, heating and electricity. The shortage of electricity was severe in the winter seasons. As a result, health facilities could not provide quality service to the population.

6.24 ***Even though it was not possible to probe leakages in the flow of funds, the PETS finding shows that not all resources reached the health facilities, particularly PHC facilities***. Almost 1 out of 4 medical houses did not receive any other funds or in-kind resources from the government for expenditures other than salaries.

6.25 ***Expenditures for food and drugs did not seem to be aligned with the norms used for the allocation of food and drugs***. Also, the PETS findings showed discrepancies in the allocation of resources and is not the rationale for allocation to certain line items. For example, food was the highest expenditure and other inputs were also significant expenditure. However, the PETS data on outputs showed some discrepancies with the administrative data, implying that official data may not be accurate.

6.26 ***External support, mainly from international organizations, is very important for the health sector but it is not coordinated***. This may lead to misallocation of resource as external support might be concentrated in certain area while the needy area may be left unnoticed.

6.27 ***Significant out-of pocket expenditures by staff indicate that the operational budget was under-funded***. However, staffs may accept out-of-pocket payment because they may be getting additional stavkas and bonuses, potentially to cover additional needed expenditures (trips, outreach, and supervision).

6.28 ***Service Outputs and Immunization. Undertaking an immunization component in a PETS exercise is worthwhile at country level if there has been a large influx of resources with limited impact on results***. The immunization case study found that immunization planning and budgeting is a top-down process, with inequities found in resource allocation to lower levels. Budget allocation for immunization was insufficient, as a result, immunization service in Tajikistan relied heavily on donor funding. This places Tajikistan in a vulnerable position regarding program sustainability.

6.29 ***Operational costs are seriously underfunded. The operational resource requirement for immunization services is three-times what is currently provided***. The process of conducting the immunization component of the Health PETS has given rise to policy discussions about vaccine financing, with the GoT increasing its allocation from $15,000 to $400,000 for vaccines. However, there is still a shortfall of $200,000 for vaccines.

Recommendations

- The government will need to pay attention on improving the basic infrastructure of rural PHC facilities as well as access of these health facilities to communal services, especially water, electricity, and heating to improve health service delivery.

- A management information system (MIS) for the health sector is necessary to provide information to health managers that would improve the implementation of the per capita funding and the Basic Benefit Package.

- Donor coordination in the health sector needs strengthening to eliminate duplication and thus ensuring that scarce resources are utilized efficiently. A Sector Wide Approach (SWAp) in the health sector could be considered as an instrument for strengthening coordination among donors. However, the SWAp will require that the government develop a comprehensive health sector strategy that articulate clear goals, objectives, and policy measures to be implement in the medium-term. These measures should be sequenced and prioritized and accompany by a realistic cost of these measures. Currently, Tajikistan does not have a comprehensive health sector strategy.

- Reform of the wage and stavkas systems in the health sector should go hand-in-hand with reforms in budgeting for operational costs. Also it is important to improve the efficiency of the sector (e.g. reduce number of trips to CRH).

- Improve the efficiency of resource utilization in several areas. Reallocating fund from food supply to other health inputs could have more impact on intermediate outcomes. The government may consider reduce the number of inpatient beds at CRH level that are under-utilized due to an excessive supply of hospital beds. Utilization of drug provided by the state for inpatient services is not very efficient and, therefore, there is scope for efficiency gains in the management of drug for in-patients.

ANNEX A: SURVEY METHODOLOGY AND IMPLEMENTATION

A. INTRODUCTION

This section explains the sampling strategy used for the Public Expenditure Tracking Survey (PETS) in the health sector in Tajikistan, survey instruments, survey implementation and data management. The survey tracked the 2005 health expenditure and was carried out during the months of November through December 2006.

B. SAMPLING STRATEGY AND DESIGN

At the time, the team decided to conduct a PETS in Tajikistan, there was no sample frame of health providers in the country. The Ministry of Health itself could not provide the team with the universe of providers. The starting point was thus to build the sample frame from which to draw a representative sample for the PETS.

The Universe of Health Facilities Before this mission, the full list of health facilities in Tajikistan was not available. A local Tajik firm, Zerkalo, was hired to compile the full list of health facility in the country during August 2006. The firm came back with a full list of facilities with a breakdown along a number of variable such as location (Oblast, rayon and jamoat if applicable), rural/urban, type of the facility, number of beds when in-patients services are provided and whether the facility is public or private. Since only public facilities will be interviewed during this PETS all the private facilities have been excluded from the sample frame for the sampling.

Table A.1: Public Health Facilities Sampling Frame

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Oblast	# of Rayons	# of Rural Jamoats	# of Jamoats	# of Facilities	# of Facilities	# Selected Rayons	# Selected Jamoats
DUSHANBE	1	N/A	N/A	32	32	1	1
GBAO	7	42	35	224	218	3	9
KHATLON	25	130	168	1054	1030	12	43
RRS	13	91	108	710	696	6	24
SOGD	15	93	134	597	583	8	30
Total	61	356	445	2617	2559	30	107

Source: Data Collected by Zerkalo Summer 2006

Notes: Cities and urban settlements are included in (4). The Central Rayon Hospitals (CRH) are included in (5)

(a)

The universe of public health facilities which is used as our sampling frame is provided in Table A.1. The first column gives the oblast name. Column (2) gives the number of rayons in each oblast, the biggest oblast in terms of number of rayons is Khatlon which hosts 25 rayons. Dushanbe, the capital city, is considered as an oblast but it also carries a rayon status. Overall, there are 60 rayons in Tajikistan plus Dushanbe. The jamoat is the administrative entity just below the rayon. Jamoats matter in the PETS because they handle public resources. There are 356 jamoats in Tajikistan as shown in column (3). However, for the purpose of the sampling

strategy, cities and urban settlements which can be considered as "urban" jamoats are included which brings the total to 445 jamoats as in column (4). The list of facilities identified 2617 public facilities in the country including the CRHs which are sampled with certainty whenever the rayon is selected. Therefore, the CRH have been excluded form the sample frame which leave us with 2559 health facilities to choose from.

Selection of Rayons. Tajikistan counts 5 oblasts or regions and 61 rayons. Dushanbe, the capital city, enjoys a special status and is considered both as an oblast and rayon by itself for the survey's purpose. For the survey, the overall 'optimal' number of rayons is fixed at 30 to be chosen by a strategy to be defined. Dushanbe is included in the sample with probability one because of its importance. Two other rayons, Varzob among the Rayons of Republic Subordination (RRS), and Dangara in the Khatlon oblast are also purposively chosen because the survey result will be used as a baseline for future evaluation of per capita financing scheme that is being piloted in the two rayons. The remaining twenty-seven rayons are allocated across the four strata using proportionate allocation which allows each oblast to contribute to the sample in proportion to its importance in the universe. Column (7) in Table A.1 provides the number of rayons to be selected in each oblast. After selecting the number of rayons, it remains now to sample the rayons within each domain. The rayons have been sampled with probability proportional to size (PPS) – size is defined as the number of facilities in the oblast. The final selection of rayons along with the probability of selection is given in Table A.2. The probability of selection of a rayon is defined below:

$$PR_{ij} = \Pr ob(R_{ij}) = NR_i \cdot \left(\frac{\text{Number of HF in Rayon } j}{\text{Number of HF in Oblast } i} \right) \quad (1)$$

Where Rij is rayon j in oblast i, NRi is the number of rayons to be chosen in oblast i as given by column (7) in Table A.1. The PPS procedure brought up one difficulty in Sogd. Pendzhikent, the biggest of the 15 rayons in Sogd, counts 105 facilities out of a total of 583. Pendzhikent's probability of selection is strictly greater than one. The procedure followed then, was to select Pendzhikent and set its probability of selection to one. The excess probability of selection has been equally divided among the seven other selected rayons. The probability of selection of the rayons is given in column (6) of Table A.2. The indication of whether the rayon has been finally selected is given by column (7) of that Table.

Sampling of the Jamoats. The initial sampling strategy was to randomly sample ten facilities in each of the rayons. However, given that jamoats play a central role in the financing of facilities and the important number of jamoats, randomly selecting the facilities within each rayon would have brought about a very high number of jamoats to survey resulting in a sharp increase in the survey cost. Indeed, whenever a facility is sampled, the jamoat associated to that facility has also to be surveyed. The alternative strategy chosen was then to cap the number of possible jamoats to survey four (4). Therefore, in each rayon four jamoats have been sampled with equal probability of selection.

Therefore the probability of selecting a jamoat *k* in rayon *j* and oblast *i* is simply:

$$PJ_{ijk} = \Pr ob(J_{ijk}) = \frac{4}{\text{Number of Jamoats in Rayon } j} \quad (2)$$

When there are four jamoats or less in the rayon, all jamoats are chosen with probability one. In the end, 107 jamoats were included in the survey. Column (8) of Table 2.2 provides the sampling probability of the jamoats in the rayons which is simply the minimum between 1 and the ration of 4 divided by the number in column (4) of Table A.2.

Sampling Facilities The final step consists of selecting the facilities. Within the facilities under the authority of the four jamoats that were selected in the preceding phase ten facilities were randomly chosen. Therefore the probability of selecting a facility within that population is:

$$PF_{ijl} = \Pr ob(F_{ijl}) = \frac{10}{\sum_{k=1}^{4} \text{Number of HF in Jamoat } k} \quad (3)$$

The denominator gives the total number of facilities to be selected from, the information is given by column (9) of Table A.2. Finally, the overall selection probability and weight for each facility *l*, in jamoat *k*, rayon *j* and oblast *i,* in the sample are:

$$PF_{ijkl} = PR_{ij} \cdot PJ_{ijk} \cdot PF_{ijl} \text{ and } WF_{ijkl} = 1/PF_{ijkl} \quad (4)$$

Selecting Staff and Staff Sampling Weights. In each facility, seven staff members have been randomly selected for the staff survey. Facilities with seven or fewer employees are "take-all" cases i.e. all staff have been administered the questionnaire. The computation of the staff probability of selection is simply the minimum between one and seven divided by the number of employees in the facility. The weight of the staff is the inverse of that probability. However, because of absent staff, sometimes in facilities with, say, 5 employees only 3 questionnaires have been filled out. An adjustment procedure needs then to be used to account for the absent staff. This procedure is relevant only in facilities where the staff size is lower than 7 and in which employees were missing in action at the time of the survey. Let us illustrate the simple adjustment procedure used by way of an example. Suppose a facility of 5 where only 3 employees are on the premises. Each employee will be assigned a probability of selection of one. The original weight is then the inverse of one, i.e. one. To correct for the missing staff, however, the weight is adjusted to 5/3 which will assign to the facility its true size. The main caveat of this procedure is its lack of control for the "type" of the missing staff. Indeed, if the two absent staff members are nurses and only doctors are on the premises at the time of the survey, the weights of the doctors will be biased upward. That bias will be correctly if the type of the absent staff is random i.e. there is no pattern for a given type of staff to be more frequently absent than others.

Finally, the overall weight of a staff member s given by the weight as computed above, times the weight of the facility as given by column (12) of Table 2.2

Table A.2: Sampling Probabilities and Weights

1 Oblast	2 # Rayo	3 Rayon	4 # Jamoat	5 # Fac.	6 P(Ray)	7 Sray	8 P(Jam)	9 univ	10 P(Fac.)	11 ovpfac	12 fweight
Dushanbe	1	Dushanbe	1	32	1	1	1	32	0.313	0.313	3.2
Gbao	7	Darvoz	4	34	0.468	--	1	--	--	--	--
Gbao	7	Ishkashim	7	29	0.399	--	0.571	--	--	--	--
Gbao	7	Khorog	1	12	0.165	1	1	12	0.833	0.138	7.267
Gbao	7	Roshtkala	6	28	0.385	1	0.667	24	0.417	0.107	9.343
Gbao	7	Rushan	8	39	0.537	--	0.5	0	0	0	0
Gbao	7	Shugnan	8	43	0.592	1	0.5	30	0.333	0.099	10.14
Gbao	7	Vandzh	1	33	0.454	--	1	--	--	--	--
Khatlon	25	A.Dzhomi	7	52	0.584	--	0.571	--	--	--	--
Khatlon	25	Baldzhuvon	5	23	0.258	--	0.8	--	--	--	--
Khatlon	25	Bokhtar	10	67	0.753	1	0.4	30	0.333	0.1	9.963
Khatlon	25	Dangara	10	51	1	1	0.4	16	0.625	0.25	4
Khatlon	25	Dzhilikul	6	45	0.506	1	0.667	29	0.345	0.116	8.603
Khatlon	25	Farkhor	12	51	0.573	--	0.333	0	0	0	0
Khatlon	25	Javan	10	73	0.82	1	0.4	27	0.37	0.122	8.229
Khatlon	25	Kabodijon	10	54	0.607	1	0.4	13	0.769	0.187	5.356
Khatlon	25	Khamadoni	8	42	0.472	1	0.5	15	0.667	0.157	6.357
Khatlon	25	Khovaling	5	23	0.258	1	0.8	20	0.5	0.103	9.674
Khatlon	25	Khuroson	6	32	0.36	1	0.667	19	0.526	0.126	7.927
Khatlon	25	Kolkhozobac	9	57	0.64	1	0.444	22	0.455	0.129	7.729
Khatlon	25	Kuljab	5	48	0.539	--	0.8	--	--	--	--
Khatlon	25	Kumsangir	7	52	0.584	--	0.571	--	--	--	--
Khatlon	25	Kurgan-Tjub	1	13	0.146	1	1	13	0.769	0.112	8.9
Khatlon	25	Muminobad	7	37	0.416	1	0.571	25	0.4	0.095	10.524
Khatlon	25	Nosiri Khisra	3	16	0.18	--	1	--	--	--	--
Khatlon	25	Nurek	4	15	0.169	--	1	--	--	--	--
Khatlon	25	Pjandzh	6	47	0.528	--	0.667	--	--	--	--
Khatlon	25	Sarband	3	11	0.124	1	1	11	0.909	0.112	8.9
Khatlon	25	Shakhrituz	6	46	0.517	--	0.667	--	--	--	--
Khatlon	25	Shurabad	7	24	0.27	--	0.571	--	--	--	--
Khatlon	25	Temurmalik	7	35	0.393	--	0.571	--	--	--	--
Khatlon	25	Vakhsh	6	57	0.64	--	0.667	--	--	--	--
Khatlon	25	Vose	8	59	0.663	--	0.5	--	--	--	--
RRS	13	Dzhirgatol	10	46	0.347	--	0.4	--	--	--	--
RRS	13	Fajjzobod	11	40	0.302	--	0.364	--	--	--	--
RRS	13	Gissar	10	85	0.642	--	0.4	--	--	--	--
RRS	13	Nurobod	7	40	0.302	--	0.571	--	--	--	--
RRS	13	Rasht	11	51	0.385	1	0.364	17	0.588	0.082	12.137
RRS	13	Rogun	2	14	0.106	--	1	--	--	--	--
RRS	13	Rudaki	14	109	0.823	1	0.286	29	0.345	0.081	12.329
RRS	13	Shakhrinav	7	31	0.234	1	0.571	19	0.526	0.07	14.201
RRS	13	Tavildara	4	23	0.174	--	1	--	--	--	--
RRS	13	Tochikobod	5	25	0.189	1	0.8	17	0.588	0.089	11.254
RRS	13	Tursunzade	9	86	0.65	1	0.444	53	0.189	0.054	18.359
RRS	13	Vakhdat	11	112	0.846	--	0.364	--	--	--	--
RRS	13	Varzob	7	34	1	1	0.571	15	0.667	0.381	2.625
Sogd	15	Ajjni	8	46	0.663	1	0.5	15	0.667	0.221	4.527
Sogd	15	Asht	10	33	0.484	--	0.4	--	--	--	--
Sogd	15	B. Gafurov	13	63	0.896	--	0.308	--	--	--	--
Sogd	15	Dzh. Rasulo	9	35	0.512	1	0.444	24	0.417	0.095	10.552
Sogd	15	Ganchi	8	40	0.58	--	0.5	--	--	--	--
Sogd	15	Isfara	13	45	0.649	--	0.308	--	--	--	--
Sogd	15	Istaravshan	12	53	0.759	1	0.333	14	0.714	0.181	5.535
Sogd	15	Kajjrokum	6	14	0.224	1	0.667	12	0.833	0.124	8.05
Sogd	15	Kanibadam	7	39	0.567	1	0.571	21	0.476	0.154	6.485
Sogd	15	Khudzhand	1	22	0.333	--	1	--	--	--	--
Sogd	15	Mastchokh	9	37	0.539	--	0.444	--	--	--	--
Sogd	15	Pendzhikent	16	105	1	1	0.25	33	0.303	0.076	13.2
Sogd	15	Shakhristan	2	14	0.224	1	1	14	0.714	0.16	6.261
Sogd	15	Spitamen	7	18	0.278	1	0.571	14	0.714	0.114	8.798
Sogd	15	Zafarabad	13	19	0.292	--	0.308	--	--	--	--

Source: Tajikistan Health PETS

C. SURVEY INSTRUMENTS

Tracking public expenditure in the health sector requires designing appropriate instruments in order to collect budget data at each level public resources went through before reaching frontline providers. In Tajikistan, this includes at local level Rayons, Central Rayon Hospitals, Jamoats and health facilities. This section describes the survey questionnaires that were designed in close collaboration with the key government counterparts in Ministries of Health, Finance, and Executive Office of the President (EOP). A consultation workshop with key counterparts was held with representatives of these agencies to discuss comments. Their inputs were incorporated in the final draft questionnaires. The field survey was administered by Zerkalo, a local survey company.

The data was collected through a series of questionnaires applied to different administrative levels of local government responsible for service delivery. A set of questionnaires including an *expenditure tracking module* was applied from the rayon to the facility levels to identify budgetary and non-budgetary revenues and determine how much of appropriated funds reached the facility in 2005, especially wage payment. Questionnaires also examine the roles and responsibilities of authorities at various administrative levels in budget and human resource management, and accountability in using public resources through internal and external control of the budget.

Six questionnaires were designed for the purpose of the survey. Four of them targeted four levels of the health system: rayon, central rayon hospital, jamoat, and health facility. Financial records at the rayon, central rayon hospital, jamoat, and facility levels were reviewed to cross-validate the information. A *Staff Questionnaire* is designed to address wage related issues for health care staffs as well as human resource management at health facilities. Finally an *Immunization Questionnaire* is designed separately to track expenditure on immunization activities.

Rayon Questionnaire was applied to the rayon administration and responded by rayon financial department. The rayon questionnaire tracked budgetary revenues (tax and non tax and transfers from republican budget and subsidies) as well as additional resource both in cash and in kinds contributed to the health sector budget by government at various levels, donors, local communities, etc. On the expenditures side, the rayon questionnaire tracked allocation of budgetary resource to key sectors (general administration, education, health, and housing and communal services), allocation of resource within the health sector (by economic classification, function, and by budget institution unit). The questionnaire also examined the role and responsibilities of the rayon chairman in budget preparation, execution as well as issues in financial reporting, internal and external audit. Information from the rayon questionnaire can be cross validated with information from central rayon hospital and jamoat questionnaires. However, cross validation of information with the facility questionnaire is not possible as rayon allocates budgetary fund to health through central rayon hospitals and jamoats.

Central Rayon Hospitals Questionnaire was applied to central rayon hospital administration responded by Head Doctor of Central Rayon Hospitals or by delegated staffs. Central rayon hospital plays an important role in allocating budgetary resources to health facilities included in the CRH network. These health facilities are not legal entities and therefore they do not have approved budgets based on organization. The questionnaire examines the role and responsibilities of the Head doctor of the central rayon hospitals. It tracks budgetary and non-budgetary revenues (in cash and in-kinds) as well as expenditure by economic, functional and

budget institution of a central rayon hospital. Tracking of economic classification focuses on wage bill and other inputs including goods and services (foods, drugs, and travel expenses), repair and maintenance and communal services. However, cross validation of expenditures with health facilities is limited to payments of wage. Cross validation of expenditure on other inputs can not be done as there is no record on how much inputs health facilities received from the central rayon hospital. Central rayon hospital and jamoat have no financial relations as they both play role as paymaster to health facilities. Finally, the questionnaire examines the role of head doctor of the central rayon hospital in financial management as well as human resource management.

Jamoat Questionnaire was applied to jamoat administration responded by jamoat chairman or an accountant. Similar to the rayon and central rayon hospital questionnaires, the jamoat questionnaire tracks budgetary and non-budgetary revenues as well as budgetary expenditure allocation (economic and functional). The wage expenditure can be cross validated with the facility questionnaire.

Facility questionnaire was applied to health facilities and responded by Head doctor of the facility. As a facility is a service delivery unit, the questionnaire collected basic information about health facility that affects the ability to delivery health services. These include the number of population served, catchment areas, distance from centre/town, physical infrastructure, utility connections and availability, operating hours, medical infrastructure (beds, medical equipments, vehicles, etc). It also examines personnel management (recruitment, firing, and incentive), tracks revenues and expenditures both in cash and in kinds (drugs, food, fuel, and other material inputs) received and spent by a health facility. As a health facility other than a central rayon hospital has no approved budget, the questionnaire did not ask for approved and executed budget of a health facilities but asked for the estimated amount of resource received from either central rayon hospital or jamoat for delivery of health services in 2005. For tracking purpose, only payment of wage by health facilities can be cross validated with wage payments reported by central rayon hospitals and jamoats. Tracking of expenditures on inputs other than wages is limited due to poor keeping of payment records and time consuming in cross validation at both levels.

Staff Questionnaire was applied to staff in sampling health facilities included in the survey. The questionnaire is designed to track payment of wage as it contributes to 60-80 percent of total health budget. In addition, the questionnaire is used to examine staff qualifications and training, workloads, pay and incentive, informal payments and other related human resource management issues that affect health service delivery. Finally, it examines service delivery activities to enable linkages with resource utilization.

Immunization Questionnaire was part of PETS in order to fill in knowledge gaps on execution and distribution of immunization resources (funds and commodities) both at the country level and more globally. The result will shed light on policy areas where the budgeting, resource allocation, and budget execution processes can be strengthened to achieve maximal health impact. The questionnaire will track the flows of funds allocated specifically for immunization, their distribution, and sources (government and external resources). It will track a share of budgetary funds available to immunization services (as a proportion of total funds available to primary health care) and evaluate vaccine and safe injection commodities flows and distribution.

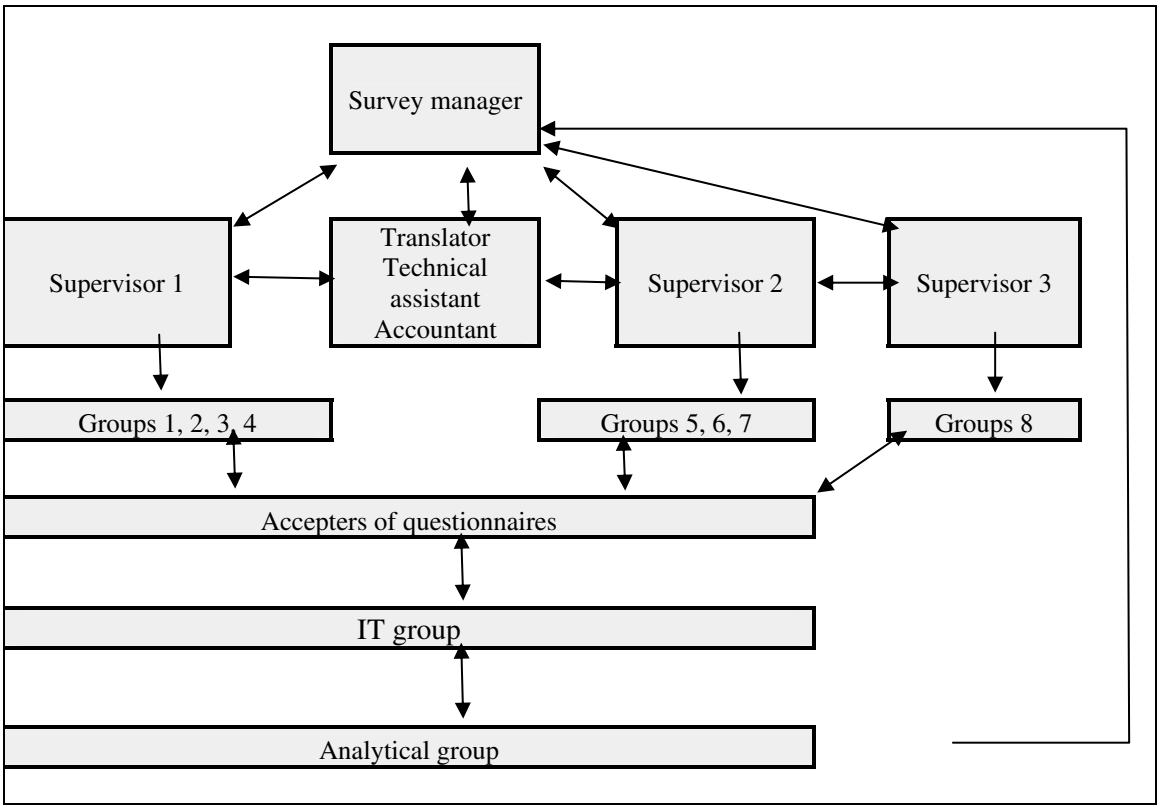
D. SURVEY IMPLEMENTATION – THE FIELD WORK

The survey was administered by a local survey company entitled “Center of Sociological Reseach “Zerkalo” (Tajikistan). The government also authorized the local survey company to

interview rayon finance departments and health facility staffs as well as review expenditure records at various administrative levels. The survey was conducted from November xx – till December 30 2006 based on the sample design.

Survey Organization. The local survey team comprised the following: survey manager, supervisors, authorized staffs of the SRC "Zerkalo", enumerators' team, accepters of questionnaires, IT group, and analytical group. Chart A.1 presents the hierarchic structure of the team.

Chart A.1: Hierarchic Structure of the Survey Team



For data collection, 8 enumerators groups were established. E ach group comprised four persons and is responsible for data collection in four rayons except two of them which were assigned three rayons each. Each group is composed by a head of the group, a senior enumerator and two. Questionnaires for rayons, CRHs as administrative units, as well as questionnaires on immunization had to be filled out only by heads of enumerators groups. However, the other members were also trained to fill questionnaires for jamoats, institutions, immunization, and staff in order to be able to work.

Before starting the field work, a theoretical training of enumerators was organized during the period from October 9 to October 12, 2006 in Dushanbe. Training was conducted jointly by the specialists of the World Bank and senior officials of the SRC "Zerkalo". The training program included such issues as Budget – Structure, Preparation, and Execution and Financing of the health sector, Overview of PETS, Health Management System in Tajikistan, Budget Classification and PETS, analysis of each questionnaire and implementation of practical tasks of filling out, sampling frame, survey plan, tips for interview, etc.

Additional training was organized in each Oblast by specialists from Zerkalo with the support of the survey coordinator from the World Bank. Upon completion of training, each specialist worked with one enumerators group in each region during two days, monitored their work, made necessary comments and corrections. Such strategy allowed monitoring of the enumerators' work and minimizes possible mistakes at the very initial stage of the field work. Specific trainings were also organized depending and needs and particularities of the regions.

Taking into account that the interviewed institutions work five days a week, and only some work half a day on Saturdays, the field work was organized in such a way that each enumerators group spent five days in each of the rayon. Preliminary survey plans were developed for each group detailing responsibilities of each enumerator for each working day. Initially it was expected that during the first day each group will work jointly in the rayon interviewing the rayon hukumat and the CRH. During the following days the group has to divide into two subgroups, each headed by the head of the group and the senior enumerator. Each subgroup worked independently in different jamoats. In the evening all of the group members gathered in an agreed place and reviewed questionnaires they filled out. This plan was applied when possible but adjustments were made depending on circumstances. For example, the majority of surveyed rayons were opened on Saturdays.

The survey is presented in Table A.3. It was planned that each enumeration group will complete his task within 20 working days or one calendar month. All field work had to be completed by the 15th . However, the plan was implemented with some adjustments as presented in the Table. The delay was mainly due to the organization of the work in GBAO and clearing the database. Operations in GBAO were delayed because of weather conditions. Before starting the work in GBAO the supervisor in GBAO assisted his colleagues to arrange and monitor the work in the RRS. Significant slippage in the schedule occurred due to the database clearing. Also the burden of work for the group responsible for computer data processing was underestimated and this caused additional delays.

Table A.3: Timetable for Field Work

Type of Work	*Planned Period for Performing the Work*	*Actual Term of Performance*
Preparatory work	November 1-8, 2006	November 1-8, 2006г.
Training for enumerators	November 9-12, 2006 November 11-12, 2006	November 9-12, 2006 November 11-12, 2006 December 2-3, 2006
Field work	November 13 – December 15, 2006	November 13 – December 22, 2006
Data input in the database	November 20 - December 20, 2006	November 20, 2006 - January 7, 2007
Clearing the database	December 26, 2006 – January 20, 2007	January 7 – February 10, 2007

Source: Tajikistan Health PETS.

Quality control of the questionnaires was performed at three levels. At the first stage each enumerators group guided by the Head of the group implemented control immediately after data collection and collected missing data and corrected mistakes when necessary. At the second stage, acceptance of questionnaires and visual control of quality was performed in the office of

the SRC "Zerkalo" by the supervisors and accepters of questionnaires. The third stage covered verification after data entering. Verification was performed through logical and cross-analysis of various questionnaires items.

Survey Samples. The objective of the survey was to interview 30 rayons and corresponding CRH, 4 jamoats and 10 health facilities within each of the rayon and no more than 7 staff at each facility. Finally, 30 rayons and 28 CRH were visited. The reason of this mismatch is that the cities of Dushanbe and Khorog do not have CRHs. However, the CRH questionnaire was applied to the Central City Hospital (CCH) in the Kurgan-Tube city as it has a similar role to the CRH

At jamoat level, 104 were visited during the survey; however, some do not manage public resources for the health sector. From this sample, 30 jamoats do not manage or did not manage public health resources in 2005 as a result the whole questionnaire was not applied to them. Therefore, the analysis in this report is based on 74 jamoats that did manage public health resources in 2005. Although there are no jamoats in urban areas, the team applied the jamoat questionnaires to four rayons in the capital city of Dushanbe that play similar roles to jamoats than rayons. This application of the jamoat questionnaire to rayons was limited only to Dushanbe because there are no comparable administrative units in the other cities (Kurgan-Tube and Khorog).

Table A.4: Number of Filled Survey Questionnaires

Questionnaires type	*Quantity*
Rayon	31
CRH	28
Jamoat	104
Facility	326
Staff	1282
Immunization	328

Source: Tajikistan Health PETS.

The survey team visited a total of 326 of facilities. However, the team wasn't able to collect data about 9 of them for two reasons: either because the head of facility was absent and nobody was able to provide answers or the facility is no longer in operation. Six facilities fall within the last category.

E. DATA ENTRY AND CODING

Each type of questionnaire was entered using a specific program designed under CSPro. Data entering started in parallel with the field work after the receipt of the first questionnaires in the office of the SRC "Zerkalo". From the second field work week database inputs were sent to the World Bank office. After data entry, the database was converted into SPSS and STATA format. Data input was fully completed on January 7. Database clearing started from this date and were completed by February 10.

Data Coding. Data codes for oblast, rayon, jamoat, and facility are based on the administrative code provided by the State Statistical Committee. The variable codes for survey data has 5 digits as follows: the first digit code represents type of questionnaires (e.g. r for rayon, c for central rayon hospital, j for jamoat, f for facility, and s for staff questionnaire); the second digit code represents a section in the questionnaire (beginning from 0, 1, ----,); the third digit code represents the question number in the same section; the fourth digit code represents row

number of the same question; and the fifth digit code represents column number of the same row and question.

All survey data are entered into STATA and SPSS. Data cleaning are carried out in conjunction with review of the survey questionnaire by the local survey team as well as reviews by the Bank team on a weekly basis to ensure that errors are promptly remedied.

F. SURVEY EXPERIENCE

Issues Encountered During the Survey

The central government issued a letter introducing the survey to local administrations and asking for their cooperation. Therefore, the survey benefited from kind cooperation of local authorities and staff of medical facilities. Many rayons and medical facilities provided support to the enumerators in arrangements. However, a number of problems arose during field operation.

Sampling Frame: there were frequent mismatch on the localization of Central Rayon Hospitals and health facilities. For instance, health facilities located in one jamoat, according to our data, turned out to be in another jamoat. Thus, in Jabbor Rasulova Rayon of the Sogd Oblast we initially selected 3 jamoats for the survey. During the survey it turned out that four medical facilities related to these jamoats were not included in the sampling population. All additional jamoats were interviewed. Similar situations were observed in 7 other rayons: Jilikul, Bokhtar, Dangara, Hamadoni (from Khatlon Oblast), Spitamen (from the Sogd Oblast) and the following rayons of republican subordination. When it turned out that the selected institution belongs to a different jamoat, enumerators had to do additional work interviewing a "new" jamoat.

Location of Facilities. Several health facilities didn't have their own building, and medical workers received patients at home, in administrative buildings of kolkhozes and sovkhozes. Several facilities were on the books of the CRH but didn't function at the time of the survey. Such situations were observed in the Oblast Burn Center of Kurgan-Tube City (the facility does not function), the MH Tavdem in the Roshtkala Rayon (closed), MH Karasgir in the Tajikabad Rayon (the facility does not function due to lack of staff), in the Health House Magmurud of the Rudaki Rayon (lack of the majority of staff and building), MH Sarband of the Khuroson Rayon (lack of a building, nurse receives patients at home, and the village residents do not know about the existence of a medical house), and others. In some cases enumerators had to spend more time searching for medical houses, when the staff receives patients at home. Questioning local residents on the location of a medical house became complicated due to the fact that medical outworking is associated with private medical practice of home-folks rather than of a medical facility, and hence, they couldn't show where the medical house is in their village.

Survey Instruments. There were also a few problems with survey instruments, namely inconsistency between the survey tools and reporting tools used at facility level. For example, in the immunization questionnaire it was required to provide data on vaccination of children under 1 to 2 years. However, at facility level, data on vaccination covered children in the age from 1 to 6 years without a breakdown by age.

Job Classification for Health Personnel. Another issue concerns definitions and classifications. It was required to collect data on the specialists working in the institutions, for instance, CRH senior physician, nurses and feldshers. However, in the health system data is registered based on a different standard: specialists are indicated in the following groups – the senior physician of the CRH is included in the doctors category, nurses and feldshers are

registered as paramedical personnel. This complicated the search of necessary data: where possible, enumerators jointly wit the senior officials of medical facilities separated the staff the way it was required for the questionnaire (e.g., senior physicians from donors). When such separation was not possible, we retained existing classification, i.e., and decided to change the data collection format (e.g., feldshers and nurses were registered as paramedical personnel).

Contractual Workers. As it turned out during the survey, some physicians work in facilities on contractual basis, however, the registration of these cases in the questionnaire was not anticipated (such situation was mainly observed in the Varzob Rayon). In some situations it turned out as if the staff worked for 3 to 5 wage rates, which is physically impossible. However, further we found out that the staff work on contractual basis and receive the amount equivalent to the highest number of rates. Here one should note observations of enumerators, according to which many medical staff in rural areas do not know the structure of their remuneration: amount of the post salary, incremental payments and taxes to be paid, as the information on these payments is not given to each staff as a separate document (statement, pay slip), as it is done in some organizations. Due to this respondents find it difficult to give information on the payments by types.

Access to Health Facilities. Access to some health facilities was difficult because of the winter season. In some cases enumerators had to reach medical facilities by foot (3-7 km). It was the case for the following facilities: MH Utogar Aini Rayon, MH Sebiston Tajikabad Rayon, MH Sunjaev and Khidordjev Roshtkala Rayon GBAO). Others have to ride horses (Health House "Zarakuh" and "Darai Haus" of Khovaling Rayon), off-road vehicles (Health House "Ziddi" and Rural Health Center "Porund" of Varzob Rayon) or even use boats (Medical House "Tuyatosh" of Sarbandy Rayon).

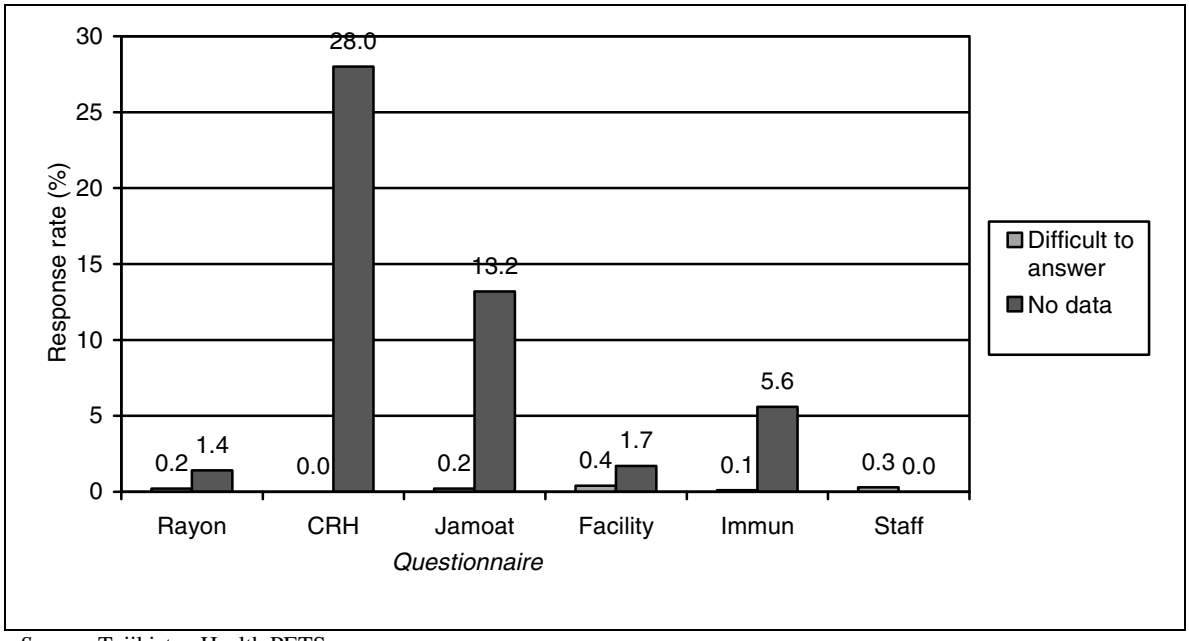
Other Issues. Another complication was due to the fact that the survey was conducted at the end of 2006 and aimed at collecting information about 2005. Some issues related to individual behaviors were difficult for the respondents due to the fact that many of them already forgot past figures and facts. These were the issues related to received salaries, education, trainings, etc. Moreover, the end of a year is usually a period when people are involved in the preparation of progress reports, financial and statistical reports for ongoing year. In such a situation providing past year data was an extra burden on the senior officials of institutions. The key informants didn't have enough time to work with enumerators, and sometimes this burden caused misunderstanding and annoyance. Another problem was caused by unfavorable weather. Such difficulties as strong cold and snow, heavy-going roads, lack of electricity for heating, became impediments, overcoming which required significant efforts of enumerators.

In organizing such surveys in the future it is necessary to envisage mechanisms to prevent possible errors through documented approval of collected data. During collection of the questionnaires and computer processing of data we faced the problem of accuracy control and error control. Thanks to the efforts of the Survey Coordinator we received budget expenditure data by rayons from the Ministry of Finance and that allowed us verify budget data by rayons. In our opinion, in planning such surveys it is necessary to envisage collecting reserve data from other official sources, as well as getting photo/xerocopies of original documents and/or through collection of more detailed data (by budget items) for verification of the value of items under consideration.

Survey Responses

For the quality analysis, estimation of the response rate was made separately on each questionnaire as well as by types of missing information – for the cases, when respondents *found it difficult to respond,* and when there was *lack of necessary information.*[45] As we see from the Chart A.2, average response rate of those who found it difficult to respond to each questionnaire equals practically zero. This means that in principle there were no questions hard to answer for respondents. As far as the average response rate is concerned based on lack of information, this indicator makes about 30 percent for the CRH Questionnaire, 13 percent for the questionnaires for Jamoats, and 6 percent for questionnaires on immunization. As it was expected, this indicator equals zero for the questions for the health care facilities' staff regarding personal information on the respondents.

Chart A.2: Response Rate on Each Questionnaire



Source: Tajikistan Health PETS.

One should note that *difficulties to respond* were often due to the questions regarding details of fund allocation and human resource management in institutions. *Lack of data* was due to the lack of information on budget, and often on budget revisions. Some sample questions difficult to respond and not responded due to lack of information in institutions are given in the Annex 4.

The survey showed that the majority of primary health care facilities do not have original documents. Such situation is mainly observed with the reports on immunization. All reports for 2005 have been handed over to the CRH or are not fully maintained. In some facilities reporting is maintained with the use of non-standard forms, which significantly changes the work on identification and collection of necessary information. In some situations, heads of jamoats and chief accountants couldn't provide some information referring to the fact that they were appointed recently (3 cases).

[45] Response rate is estimated as the percentage of missing information of the total quantity of variables in the relevant questionnaire.

G. LESSONS LEARNED AND RECOMMENDATIONS

To our view, when conducting such surveys, one should be especially careful about the preparatory part of the survey not only in accordance with the general rules and requirements, but also with regard to local peculiarities. These include, in particular: working in Tajik and Russian languages, reporting system applied in the health system, difficult access to mountainous areas. Further, we formulated some recommendations, which, to our opinion, will help avoiding some complexities in arranging future surveys.

- A thorough systematized approach is needed for development of survey methodology framework. Special focus should be on the sources of information – reports containing original data.

- When developing the database for sampling survey, not only the most necessary data on the facilities should be collected, but also additional data (often not registered in current statistical reports) existing at the working knowledge level.

- When designing sampling, it is necessary to develop a mechanism to replace one facility with the other if a facility is not operational, not accessible, doesn't have staff, etc.

Survey tools should be carefully prepared. After designing the tools a thorough analysis of each questionnaire should be performed based on the following indicators:

- Morphological analysis: all terms used in the tools should have simple and clear interpretation both for enumerators and respondents.

- Consistency of questions and current reporting. Questions must be put in order to minimize influence of the enumerator and persons providing information due to possible data corruption in the process of additional calculations.

- Analysis of logic and completeness of the answers scale, registration of the most probable and spread answers, translation.

Special focus should be on relevant translation from English into Russian and Tajik languages. Sufficient time, as well as specialists qualified in health area, with the knowledge of the survey background, and capable to perform comparative analysis, must be provided.

- Guidelines on questions must be included in the questionnaire under each question. This will significantly increase effectiveness of the enumerator's performance, as he/she will not have to work on several documents: questionnaire, questionnaire guidelines, checklist, etc.

- When planning field work, estimating time and financial resources, such risk factors as inaccessibility of facilities, lack of key informants, the need in completion, collection of additional data, need to be taken into account.

- It should especially noted that similar surveys in Tajikistan should be planned for more favorable seasons, i.e., end of spring, summer, early fall.

- It is necessary to envisage a possibility for the verification of data. The following measures can be foreseen:

    - obtaining of (xerox or photo) copies of reporting documents in each facility;
    - obtaining duplicate data from other sources, where reporting information from institutions is collected (Statistical Committee, Ministry of Finance, etc.);
    - collecting more detailed data (by budget sub items) for verification of necessary item dimensions.

- It will be efficient to consider "specialization" of each member of the enumerators group for each enumerator to be responsible for filling out of specific questionnaires. This will allow each enumerator to concentrate on one questionnaire and not to spend time on studying other issues not relevant to his/her responsibility. Accordingly, trainings should be conducted separately for each enumerator group.

- At trainings more focus should be on filling out questionnaires based on various real reports.

- Strict centralization and influence of authorities at each level are the main factor facilitating unimpeded data collection all over the country. Current interest and support of the Government should be used in full for the creation of favorable environment for arrangement of the survey in the field relying on the senior officials of hukumats, inform selected institutions on the forthcoming survey in order to ensure availability of the key informant at the local level and access to original documents.

The survey shows that currently in Tajikistan, there is no centralized and up-to-date database on health facilities. Available information is not reliable as often lists do not include operational facilities or facilities under construction. It would be useful to consider support and regular (each 3-6 months) update of a single database of health facilities that includes various indicators describing these health facilities, including current operation, number of actual staff, availability of own building. All rayon and oblast health departments will be providing data necessary for updating the database at a certain periodicity. This database can also include data on services provided and available experts. Such an approach also allows earning profit that can be used to cover financial costs and support database.

Efforts should be taken to unify reporting practice of health facilities. From our point of view failure to meet standards is due to such reasons as complexity of reporting requirements, incompetence of some senior officials, and even banal lack of standard reporting forms. Improving reporting situation is also one factor facilitating improvement of controllability and transparency of the system.

ANNEX B

Table B.1: Staff Qualification Structure

		Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
	% Doctors	.	20.1	16	20.3	17.5	18.9	16.2	18.4
CRH	%N/F	.	49.2	37.4	37.7	39.4	42.3	39.9	41.9
	% Doctors	26	24.9	23.2	.	12.7	22.7	7.5	22
Other Hospital	%N/F	37.3	31.1	44	.	34.9	40.7	26.4	40
	% Doctors	43.8	46	40.6	41.5	20	40.6	36.9	40.3
Polyclinic	%N/F	31.4	39.2	45.9	46.9	56.9	42.2	48.4	42.7
	% Doctors	.	14.1	14.7	19.8	5.7	12	15.3	15.2
SUB	%N/F	.	45.5	39.7	34.3	34.3	42	41.3	41.3
	% Doctors	.	25.8	17.6	30.6	0	.	24.4	24.4
SVA	%N/F	.	57.2	56	48.2	77.8	.	53.9	53.9
	% Doctors	.	4	0	1.2	0	.	1.3	1.3
Med. House	%N/F	.	73.5	72.9	62.9	58.5	.	69.5	69.5
	% Doctors	.	66.7	40	20	40	42.7	26.8	36.2
Other	%N/F	.	33.3	40	60	40	39.3	56.1	46.2
	% Doctors	35.7	20.6	17.6	26.7	15.5	25.1	15.5	21.4
All	%N/F	34.1	48.7	45	43.7	41.9	41.9	48.9	44.6

Source: Tajikistan Health PETS 2006
Note: N/F stands for Nurses/Feldshers

Table B.2: Distribution of Nurses to Doctors Ratio

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
CRH	.	2.45	2.33	1.86	2.25	2.24	2.46	2.28
Other Hosp.	1.43	1.25	1.9	.	2.74	1.79	3.5	1.82
Polyclinic	0.72	0.85	1.13	1.13	2.84	1.04	1.31	1.06
SUB	.	3.24	2.7	1.73	6	3.5	2.7	2.72
SVA	.	2.22	3.18	1.57	.	.	2.21	2.21
FAP	.	18.42	.	51.25	.	.	53.24	53.24
Other	.	0.5	1	3	1	0.92	2.1	1.28
All	**0.95**	**2.36**	**2.55**	**1.64**	**2.71**	**1.67**	**3.15**	**2.08**

Source: Tajikistan Health PETS 2006

Table B.3: percent of Absent all Facilities

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
Doctors	27	16.6	18	24.6	29.7	16.3	24.7	20.8
Nurses	34	25.6	30.9	36.5	40.6	31.6	31.9	31.9
Other Med	27	38.1	30	36.4	36.8	21.3	39.7	34.3
Admin	50	29.4	26.2	31.3	21.4	20.6	31.3	27.9
Male	30.6	24.2	23.8	32	29.8	19.6	30	26.5
Female	31.3	26.9	29.8	34.2	36.5	26	33.4	31.1
All	**31.1**	**26.1**	**27.7**	**33.5**	**35.5**	**24**	**32.4**	**29.7**

Source: Tajikistan Health PETS 2006

Table B.4: Full Official Staff Salary (Base + Allowances)

	Doctors	Nurses/Feldshers	Other Medical Personnel	Administrative	All
Dushanbe	66.2	55.2	46.2	77.7	**60.1**
Sogd	53.3	37.2	33.1	35.8	**39.9**
Khatlon	51	41.9	29.5	34	**40**
RRS	60.6	38.4	28.1	28.6	**40**
GBAO	56.9	43.4	33	34.8	**41.1**
Urban	54.8	41.5	38.2	41.3	**44.8**
Rural	56.6	39.7	27.8	31.2	**38.9**
Tajikistan	55.7	40.2	30.8	34.4	**40.8**

Source: Tajikistan Health PETS 2006 – Facility Questionnaire

Table B.5: Number of Approved Stavkas

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Tajikistan
CRH	.	475.4	464	337.7	450.5	438.1
Other Hospital	255.8	51	175.8	.	47.2	121.2
Polyclinic	280.3	84.9	66.3	226.7	106.5	155.7
SUB	.	69.8	62.7	57.9	17.8	60
SVA	.	12.3	13.5	13.6	4.3	12.9
Medical House	.	4	4.2	3.7	2.1	3.8
Other	.	3	41	17	5	13.1
Tajikistan	270.5	33.6	37.6	29.5	34.8	37.1

Source: Tajikistan Health PETS.

Table B.6: Number of Occupied Stavkas

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Tajikistan
CRH	.	464.9	381.2	317.1	446.5	399.2
Other Hospital	246.8	48.4	126.3	.	45.9	98.6
Polyclinic	271.5	81.5	44.8	160.2	90.8	129.2
SUB	.	69.6	46.3	44	17.5	51.5
SVA	.	12.2	11	12.8	4.3	11.6
Medical House	.	3.9	3.8	3.4	2.1	3.5
Other	.	2.7	30.5	13	5	10.2
Tajikistan	261.6	32.9	29.3	24.3	33.5	32.3

Source: Tajikistan Health PETS

Table B.7: Approved Total Salary Budget

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Tajikistan
CRH	.	154017	117491.7	102761.9	192642.4	134256.6
Other Hospital	100644	13991	38213.8	.	20423.5	35112.8
Polyclinic	62798.7	30317.8	17311.1	12869	34397.5	32511.1
SUB	.	18500.2	15961.5	8999.5	6590	15040.5
SVA	.	5132.3	3452.7	2745.2	1406.5	3287.5
Medical House	.	942.2	1002.8	888.5	678.1	926.4
Other	.	1032	8650	4036	1768	4046.4
Tajikistan	77936.8	19025.6	9089	6048.3	15113.5	11870.8

Source: Tajikistan Health PETS

Table B.8: Paid Total Salary Budget

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Tajikistan
CRH	.	145521.2	108343.5	100888.6	180070.6	126378.6
Other Hospital	100160.3	13894.4	35901.3	.	18808.8	33488.5
Polyclinic	62681.8	15898	14124.4	7231	27297.5	27646.9
SUB	.	18500.2	12695.6	8999.5	6483	13918.1
SVA	.	3756.4	2849.7	2802.2	1406.5	2967.5
Medical House	.	901.8	925.7	769.5	678.1	851.6
Other	.	1032	6413	2709	1768	3037.7
Tajikistan	77673.2	12881	8196.6	5378.2	13845.7	10277.9

Source: Tajikistan Health PETS

Table B.9: Percentage of Staff Trained by Topic

	Immunization & Cold Chai	ARI	Diarrhea	Nutrition	Child & Maternal Care	Family Planning	Family Medicine	STIs or HIV	DOTS	Malaria	Other
Dushanbe	4.8	10	25.3	2.6	12.1	17.1	6.9	20.3	11	0	30
Sogd	45.7	37.1	34.4	23.8	52.8	39.2	27.8	48.3	7	0	15.1
Khatlon	25.5	28.4	28.2	15.8	22.6	21.5	22.7	45.5	11.4	6.4	30.3
RRS	31.6	27.6	29.6	15.4	34.8	35	30.7	41.1	7	0.2	8.1
GBAO	38.6	58.1	38.6	30	42	34.3	30	57.6	3.1	0	8.7
Urban	24.4	25.7	25.2	16.1	29.1	23.5	29.3	44.3	6.8	1.5	28.8
Rural	42.5	39.7	38.9	20.7	41.5	39.1	18.7	44.1	11.3	3.7	6.5
Tajikistan	31.6	31.3	30.7	17.9	34	29.8	25.1	44.2	8.6	2.4	19.9

Source: Tajikistan Health PETS

Table B.10: Probability of Receiving Bonus and Informal Charges

	Performance Bonus			Informal Charges		
	Male	Female	**All**	Male	Female	**All**
Dushanbe	92.9	63.5	**71**	84.5	67.1	**71.5**
Sogd	23.3	17.4	**19.7**	50	39.4	**43.6**
Khatlon	13.1	30.1	**24**	53.5	52.9	**53.1**
RRS	40.6	28.1	**32**	43	56.5	**52.3**
GBAO	31.8	11.9	**16.3**	0	9.8	**7.7**
Urban	32.8	31.9	**32.2**	41.6	41.9	**41.8**
Rural	20.3	17.2	**18.3**	57.1	49.8	**52.3**
Total	**28.1**	**26.5**	**27**	**47.4**	**44.8**	**45.7**

Source: Tajikistan Health PETS 2006

Table B.11: Average Performance Bonuses Received (in Somonis)

	Dushanbe	Sogd	Khatlon	RRS	GBAO	Urban	Rural	Tajikistan
Doctors	52.4	7.02	9.21	3.45	3.79	12.97	6.48	11.25
Nurses/Fe	39.01	4.77	5.57	4.07	1.91	11.27	2.65	7.33
Technicia	76.44	19.59	1.2	0	9.36	21.06	0	17.35
Administr	59.41	6.61	11.92	1.75	0	11.24	1.76	7.42
Hosp. Att	4.53	1.76	2.26	0.54	0	2.19	0.72	1.52
Male	85.16	7.74	8	4.02	4.22	15.56	4.46	11.44
Female	34.18	5.06	6.5	2.69	2.09	9.75	2.71	7.15
Total	**47.22**	**6.12**	**7.01**	**3.11**	**2.62**	**11.69**	**3.3**	**8.58**

Source: Tajikistan Health PETS 2006

Table B.12: percent Staff Willing to Quit Facility

	Doctors	Nurses/Fe	Technician	Admin.	Hosp. Att	Male	Female	Total
Dushanbe	70.7	59.2	67.8	100	45.3	75.6	63.6	**66.6**
Sogd	53.4	41.1	84	61.5	76.6	49.4	52.6	**51.3**
Khatlon	53.1	47.7	31.7	39.9	45.4	50.1	46.9	**48.1**
RRS	52.3	41.8	0	75.9	21.6	63.2	39.4	**46.9**
GBAO	80.2	88.4	96.7	87.7	89.1	86.4	87.1	**86.9**
Urban	58.3	52.6	88.3	70.4	45.6	58.3	58.7	**58.6**
Rural	56.8	46.7	18.4	51.1	48.5	55.2	46.9	**49.7**
Total	**57.9**	**49.9**	**77.7**	**62.9**	**47**	**57.2**	**54.4**	**55.3**

Source: Tajikistan Health PETS 2006

Table B.13: percent Invoke Reason to Motivate Desire to Leave

	Environment	Do get along with community	Lack of services	Dilapidated habitat	Live close to friends	Better income opportunities	Better training opportunities	Live closer to city	Other
Dushanbe	14	2.4	5.8	5.6	0	100	29.4	3.9	3.9
Sogd	8.6	10.1	35.9	34.4	15	96.4	43.2	37.1	0.6
Khatlon	9.1	7.5	50	24.6	23.9	97.8	51.9	45.8	1.8
RRS	1.2	12.3	26.8	17.8	5.6	89.8	28.8	13.6	1.4
GBAO	0	0	2	0.6	10.9	100	17	12.3	0.5
Urban	7.9	8.8	22.9	17.1	13.7	96.3	37.6	26.8	1
Rural	2.6	3.2	39	23.3	13	97.5	33.5	27.7	2
Tajikistan	6.1	7	28.3	19.1	13.5	96.7	36.2	27.1	1.3

Source: Tajikistan Health PETS 2006

Figure B.1: Staff Morale and Job Satisfaction

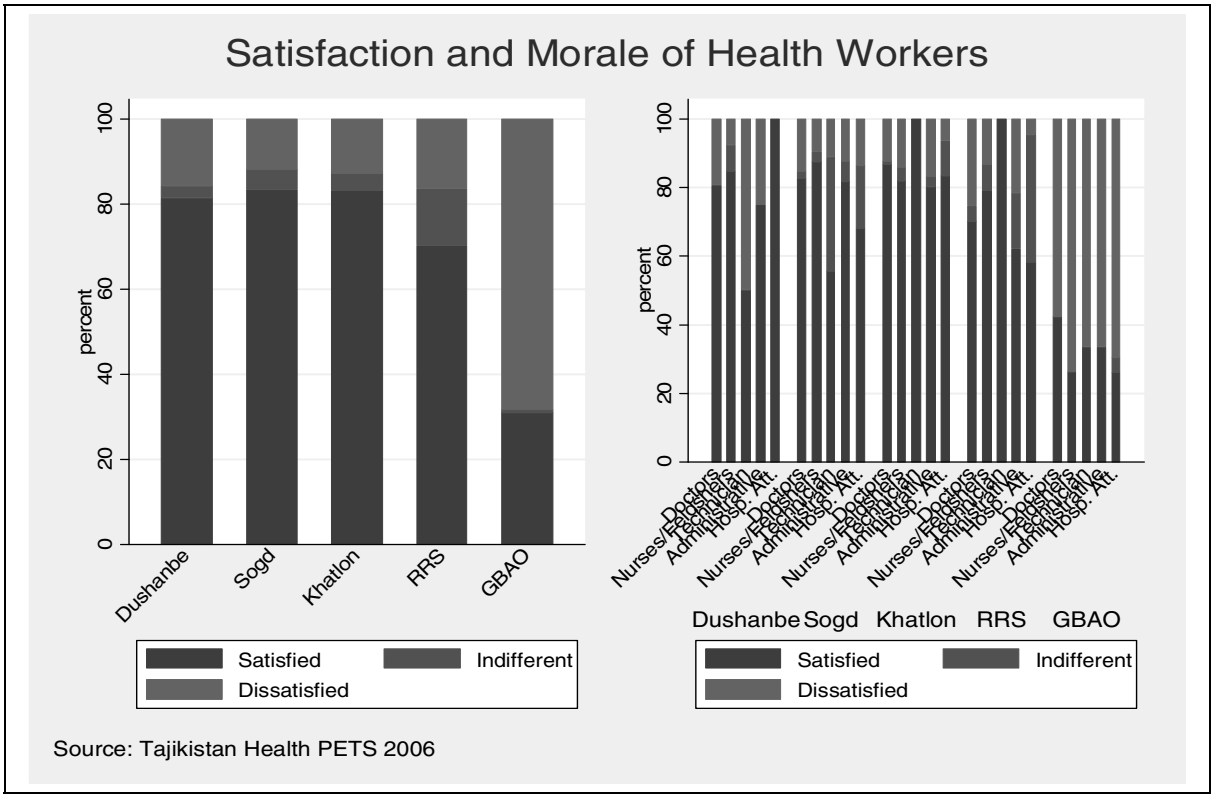
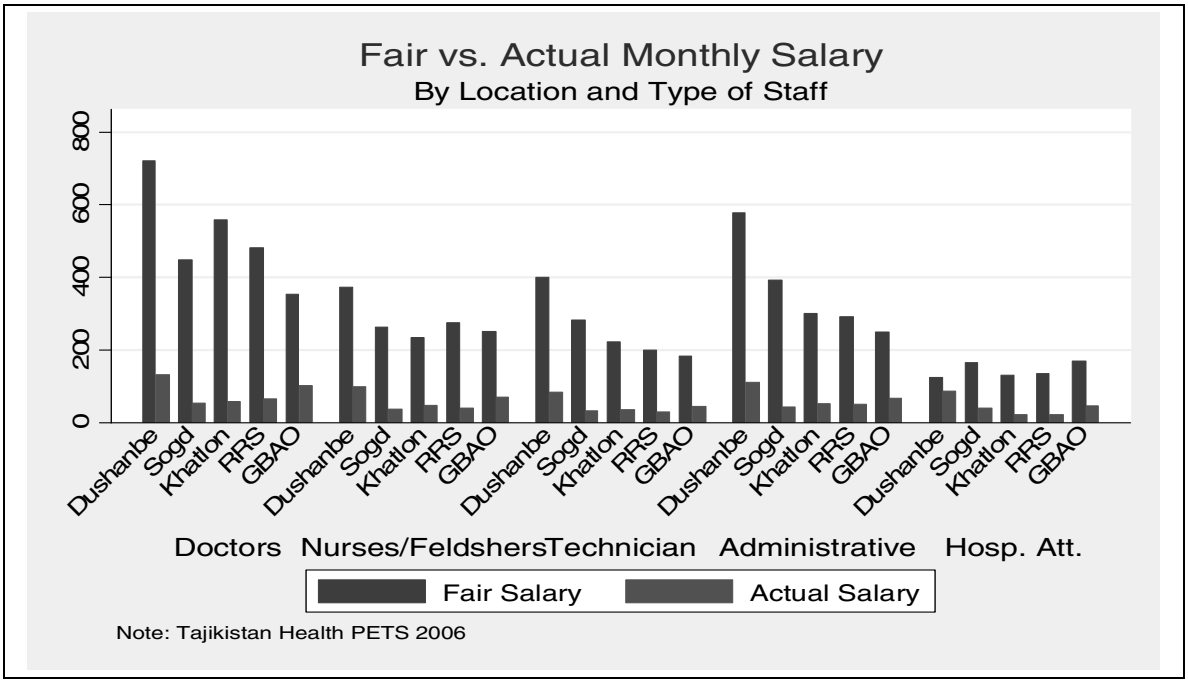


Figure B.2: Fair vs. Actual Salary across Oblast by Staff Category



Source: Tajikistan Health PETS

Table B.14: Absenteeism Determinants: Marginal Effects Probit Regression (Facility Roster)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rural	0.063***	0.074***	0.019	0.019	0.018	0.027	0.024	0.024
	(0.015)	(0.017)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Khatlon		-0.080***	-0.082***	-0.076**	-0.102***	-0.099***	-0.128***	-0.128***
		(0.030)	(0.030)	(0.031)	(0.030)	(0.030)	(0.030)	(0.030)
RRS		-0.032	-0.032	-0.026	-0.049	-0.042	-0.070**	-0.070**
		(0.034)	(0.034)	(0.035)	(0.034)	(0.034)	(0.033)	(0.033)
Gbao		-0.017	-0.007	-0.013	-0.036	-0.054	-0.067**	-0.067**
		(0.036)	(0.036)	(0.036)	(0.035)	(0.034)	(0.033)	(0.033)
Sogd		-0.105***	-0.111***	-0.106***	-0.126***	-0.130***	-0.156***	-0.156***
		(0.030)	(0.030)	(0.030)	(0.030)	(0.029)	(0.029)	(0.029)
SUB			0.058*	0.056*	0.044	0.032	0.029	0.029
			(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
SVA			0.085***	0.080**	0.073**	0.056*	0.054*	0.054*
			(0.033)	(0.033)	(0.033)	(0.032)	(0.032)	(0.032)
Medical house			0.061*	0.051	0.016	0	-0.003	-0.003
			(0.034)	(0.034)	(0.033)	(0.032)	(0.032)	(0.032)
Staff size			0	0	0	0	0	0
			0	0	0	0	0	0
Female				0.058***	-0.007	-0.01	-0.012	-0.012
				(0.016)	(0.020)	(0.020)	(0.020)	(0.020)
Nurses/Feldshers					0.147***	0.148***	0.126***	0.126***
					(0.024)	(0.024)	(0.024)	(0.024)
Oth. medical staff					0.177***	0.169***	0.133***	0.133***
					(0.031)	(0.031)	(0.032)	(0.032)
Administrative					0.085**	0.081**	0.052	0.052
					(0.033)	(0.033)	(0.033)	(0.033)
Number of stavkas						-0.082***	-0.029	-0.029
						(0.018)	(0.022)	(0.022)
Full salary							-0.002***	-0.002***
							0	0
Observations	3498	3498	3498	3498	3495	3495	3495	3495
Pseudo R-squared	0	0.01	0.01	0.01	0.03	0.03	0.03	0.03
Log Likelihood	-2087.68	-2075.93	-2071.39	-2065.32	-2042.51	-2031.72	-2022.38	-2022.38

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Tajikistan Health PETS

Table B.15: Determinants of Informal Charges – Probit Marginal Effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sogd	-0.232***	-0.235***	-0.236***	-0.239***	-0.212***	-0.232***	-0.232***
	(0.060)	(0.060)	(0.060)	(0.070)	(0.080)	(0.070)	(0.070)
Khatlon	-0.127***	-0.132***	-0.141***	-0.106**	-0.039	0.001	0.006
	(0.040)	(0.040)	(0.040)	(0.050)	(0.050)	(0.050)	(0.050)
RRS	-0.187**	-0.190**	-0.198**	-0.166**	-0.112	-0.099	-0.097
	(0.080)	(0.080)	(0.080)	(0.080)	(0.080)	(0.080)	(0.080)
GBAO	-0.565***	-0.563***	-0.564***	-0.553***	-0.548***	-0.549***	-0.548***
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
Female		-0.103***	-0.125***	-0.144***	-0.055	-0.047	-0.034
		(0.040)	(0.040)	(0.040)	(0.060)	(0.060)	(0.060)
Age			-0.007***	-0.026***	-0.017***	-0.015***	-0.015***
			0	0	0	0	0
Experience				0.003***	0.002***	0.002***	0.002***
				0	0	0	0
Exp. squared				-0.000***	-0.000**	-0.000**	-0.000*
				0	0	0	0
Doctors					0.405***	0.378***	0.370***
					(0.050)	(0.060)	(0.060)
Nurses/Feldshers					0.365***	0.354***	0.353***
					(0.060)	(0.060)	(0.060)
Administrative					0.220***	0.205***	0.204***
					(0.050)	(0.050)	(0.050)
Pay						0.141***	0.133***
						(0.040)	(0.050)
Dissatisfied						-0.036	-0.039
						(0.050)	(0.050)
Ready to leave						0.053	0.048
						(0.040)	(0.040)
Full Salary							0
							0
Fair/Full Sal. Ratio							0.004*
							0
Observations	1195	1195	1195	1195	1195	1195	1195
Pseudo R-squared	0.09	0.1	0.11	0.16	0.2	0.21	0.21
Log Likelihood	-750.17	-745.04	-734.45	-693.73	-664.68	-655.63	-652.12
Robust standard errors in parentheses							
* significant at 10%; ** significant at 5%; *** significant at 1%							

Source: Tajikistan Health PETS

Table B.16: Determinants of Levels of Informal Charges - Tobit Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sogd	-104.16***	-104.52***	-104.10***	-104.57***	-95.72***	-98.34***	-97.12***
	(14.890)	(14.560)	(14.520)	(14.420)	(14.420)	(14.400)	(14.560)
Khatlon	-78.06***	-79.05***	-80.59***	-76.22***	-62.89***	-53.99***	-52.41***
	(14.370)	(14.050)	(14.020)	(13.930)	(14.030)	(14.100)	(14.250)
RRS	-100.76***	-100.54***	-101.31***	-96.23***	-85.57***	-81.48***	-79.87***
	(15.520)	(15.170)	(15.130)	(15.040)	(15.050)	(15.000)	(15.160)
GBAO	-278.66***	-266.27***	-266.11***	-256.91***	-250.36***	-254.78***	-252.30***
	(29.320)	(28.550)	(28.670)	(28.680)	(28.870)	(29.500)	(29.570)
Female		-43.24***	-46.51***	-50.43***	-29.02***	-26.15***	-24.58***
		(7.120)	(7.170)	(7.210)	(8.300)	(8.330)	(8.430)
Age			-1.30***	-4.56***	-3.65***	-3.20***	-3.18***
			(0.360)	(0.670)	(0.740)	(0.750)	(0.750)
Experience				0.53***	0.39***	0.36***	0.35***
				(0.100)	(0.100)	(0.100)	(0.100)
Exp. squared				-0.0004**	-0.0003*	-0.0003*	-0.0003*
				(0.000)	(0.000)	(0.000)	(0.000)
Doctors					83.96***	76.04***	74.14***
					(14.670)	(14.670)	(14.860)
Nurses/Feldshers					53.97***	50.21***	49.82***
					(13.610)	(13.530)	(13.550)
Administrative					45.63***	40.81***	39.97***
					(15.170)	(15.120)	(15.180)
Pay						25.65***	25.16***
						(7.740)	(7.770)
Dissatisfied						2.27	2
						(10.140)	(10.140)
Ready to leave						14.84**	14.56**
						(7.250)	(7.260)
Full Salary							0.04
							(0.110)
Fair/Full Sal Rat							0.32
							(0.250)
Constant	78.28***	107.47***	163.21***	209.72***	117.17***	85.45***	78.86**
	(13.370)	(13.870)	(20.850)	(25.380)	(31.650)	(32.630)	(33.360)
Observations	1195	1195	1195	1195	1195	1195	1195

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Source: Tajikistan Health PETS

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