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## **Policy Research Paper # 57**

### **Improving Financial Protection in Kyrgyzstan through Reducing Informal Payments: Evidence from 2001-06**

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May 3, 2009

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# 1. Introduction

Informal payment is a significant feature of post-Soviet health systems. There are few studies demonstrating a time-trend but it is widely believed that informal payments increased significantly during the transition period. The early transition period was characterized by drastically reduced government budgets in the Former Soviet Union and Central Europe. This had a significant impact on health systems which had been predominantly publicly financed and publicly provided. The health system adjusted to the tighter funding context by raising patient contributions. In those countries where the reduction in public funding for health was modest (e.g. Hungary, Poland, Bulgaria, Romania), informal payment has been reported for medical personnel only. (Delcheva, Balabanova et al. 1997; Chawla, Berman et al. 1998; Mastilica and Bozikov 1999; Lewis 2000; Balabanova and McKee 2002; Balabanova and McKee 2002; Pavlova, Groot et al. 2003; Gaal, Evetovits et al. 2006; Vian, Grybosk et al. 2006) In those countries where the decline in public funding was dramatic (e.g. Kyrgyzstan, Tajikistan, Georgia, Moldova), informal payment became predominant not only for medical personnel but also for drugs, medical and non-medical supplies. (Abel-Smith and Falkingham 1995; Ensor and Savelyeva 1998; Lewis 2000; Kutzin 2001; Belli, Gotsadze et al. 2004; Falkingham 2004; Kutzin 2004; Gotsadze, Bennett et al. 2005) These patient contributions were unregulated and unmonitored, left to the discretion of individual physicians, and were in some cases against the legal entitlements of access.

In the Kyrgyz Republic, the decline in public health expenditures was dramatic: the government budget allocated to the health sector in 2000 was a mere 30% of the 1991 allocation in real terms. Nearly 80% of this spending was absorbed by the fixed costs of the inherited health service delivery system which was characterized by over-capacity. After paying for staff costs and utility bills, hospitals had little resources to purchase medicines and medical supplies. Patients were requested to provide medicines and supplies needed for their treatment. Simultaneously, physician wages also declined both in absolute terms and relative to the average national wage. Based on data from the National Statistical Committee, wages in the health sector were 92% of the national average in 1994 and declined to 52% by 1999. (Kutzin 2001) This led to migration of physicians from rural areas to urban centers and abroad and increasingly frequent reports of informal payments to medical personnel. Throughout the 1990's, these patient payments for medicines and to medical personnel were entirely unregulated and left to the discretion of physicians.

The Kyrgyz Republic introduced far reaching health financing reforms starting in 1996 as part of its comprehensive Manas and Manas taalimi Health Sector Reform Programs. Reducing the financial burden of health care seeking was one of the objectives of the reforms. Given the limited fiscal space it was clear that the health sector will not have additional public funds to reduce patient expenditures. The large hospital sector had to be downsized in order to achieve efficiency gains and re-channel savings to medicines, medical supplies and better paid personnel in order to reduce out-of-pocket payments for these items. The series of reforms implemented sequentially over 1996 to the present day aimed to achieve a more efficient service delivery system with more transparent and sustainable financing arrangements.

The purpose of this paper is to evaluate whether the reforms in health financing and service delivery have led to a reduction in informal payment to medical personnel, medicines, medical supplies, and other expenses over the 2001-06 period. To answer this question, we use a unique dataset of 20,955 interviews collected in five waves between 2001 and 2006. This is the largest database worldwide documenting trends on informal payment using the same methodology across years.

The paper is structured as follows. We review background information on informal payment in Kyrgyzstan and the implemented health financing and service delivery reforms in Section 2. We discuss methodological issues in Sections 3-6 including the research questions, data sources, survey instrument, and indicators. Results are presented in Section 7 and conclusions and recommendations in Section 8.

## **2. Background**

There is virtually no documented evidence from the pre-transition period about the incidence and level of informal payment in the Kyrgyz Republic. Anecdotal evidence and personal accounts suggest that during this time informal payment mostly consisted of gifts given to medical personnel, mostly in-kind. Cash payments were rare, as were cash payments for medicines and supplies. The first quantitative estimates of informal payment in the Kyrgyz Republic are from the 1994 household survey which suggests that 86% of patients reporting hospitalization paid towards their care. (Abel-Smith and Falkingham 1995) Already at that time, informal payment consisted of payment to medical personnel, payment for medicines, purchases of medical supplies (syringes, gauze, bandages, IV tubes, etc.) and non-medical supplies (linen, notebooks, light bulbs, cleaning products, etc.). Later household surveys in 1997 and 2001 confirmed the findings of this early study and highlighted the high frequency of informal payments for hospitalization.

The reforms aiming to reduce informal payments and patient financial burden in general consisted of four key building blocks. The first building block was the centralization of health financing channels (pooling). Prior to the reforms, providers – nearly all public - were funded from general tax revenues corresponding to hierarchical administrative structures: republican level (federal) providers were funded from republican level taxes, oblast (state) facilities were funded from oblast taxes, and rayon (district) facilities were funded from rayon taxes. There was no funding and decision making across these administrative boundaries leading to duplication and lack of incentives for eliminating inefficiencies. The financing reforms centralized financing channels at the oblast level pooling tax revenues in the oblast departments of the MHIF. This move eliminated rayon and city level resource pools and created the opportunity to reallocate resources across city-rayon boundaries within oblasts. In 2006, further centralization was implemented shifting pooling arrangements for the SGBP from the oblast to the national level allowing further equalization of public funding across the country.

The second building block involved the introduction of prospective purchasing methods. Prior to the reforms, providers were paid based on input-based norms formulated into strict line-item budgets reflecting historical patterns. Managers could not re-allocate across line-item categories if need or the opportunity arose. In the context of the

reforms, input based line-item budgets were replaced with capitation payment for primary care providers and case-based payment for hospital care.

The third building block involved downsizing the hospital sector. These changes in the health financing arrangements created an enabling environment to downsize excess hospital capacity. As most hospitals were built on a pavilion basis operating in 15-20 small buildings, within-facility downsizing had great potential for savings on fixed costs. The unnecessary buildings were demolished, rented out (e.g. to pharmacies), or transferred to other public use (e.g. health promotion units). During 2001-04, the physical capacity in the hospital sector was reduced from 1,464 buildings to 784 with a resultant change of the total operational area, utility costs and maintenance costs. At the same time, across-facility downsizing involved merging facilities serving overlapping populations through administrative mechanisms.

Finally, new rules were introduced regulating entitlements through an explicit definition of benefits through the State Guaranteed Benefit Package (SGBP). The SGBP provides for free primary care for the entire population and referral care with a formal co-payment. Co-payment is a flat fee payable upon admission varied based on insurance status, exemption status, case type (delivery, surgery, therapy) and whether the patient has written referral. Exemptions were granted on the basis of certain disease categories which have high expected health care use such as disability, cancer patients, patients recently experienced heart attack, TB patients, WWII veterans, etc. Hospitals receive higher payment for treating exempt patients to prevent selection. Co-payment is collected in the cashier office of the hospitals and in some cases health care personnel are allowed to take co-payment from the patient and take it to the cashier's on their behalf. Patients ought to receive a receipt for the co-payment they pay. Collected co-payments are recorded in the hospital data base along with the receipt number provided. This data is monthly provided to the MHIF against which payments are made. Collected co-payment revenues are kept on a commercial bank account of the hospital and 80% has to be used for the purchase of medicines, supplies and food and 20% can be allocated to top-up staff salaries. Co-payment collections are reported on a monthly basis to the Mandatory Health Insurance Fund (Oblast Departments) and use of co-payment revenues is reported on a quarterly basis. Co-payment was introduced in two oblasts in 2001 and rolled-out gradually covering the entire country by 2004.

Patients should not pay anything on top of the official co-payment. All additional payments (both cash and in-kind) made in the course of hospitalization beyond the official co-payment are considered informal payment in the Kyrgyz policy discourse regardless of the circumstances in which they were given (e.g. before or after treatment, requested explicitly or motivated by gratitude). To increase the effectiveness of implementing the co-payment policy, public relations campaigns have been conducted mostly through the mass media informing patients of their rights. Co-payment rates are displayed in all health care facilities next to the cashier's office. Hospital departments are requested to publicly hang a poster with a list of drugs they ought to have in stock and a daily checkmark on whether they do have it on stock. Hotlines numbers of the Mandatory Health Insurance Fund are displayed in hospitals to report abuse.

Early evaluation of the co-payment policy after the first reform wave shows that informal payment significantly declined in those two regions that introduced the reforms first relative to six later-reforming regions. (Kutzin 2001; Kutzin 2004) The frequency of informal payment to medical personnel declined from 59% to 38% and the mean

informal payment by 30% in the early reform oblasts. In contrast, informal payments to personnel slightly grew in those regions that entered the reforms later. The reforms had a similarly large impact on the frequency and level of informal payment for drugs and medical supplies. Prior to the reforms, nearly 80% of patients were asked to contribute drugs or medical supplies which dropped to 31% of patients in the reforming oblasts. The level of informal payments for medicines and medical supplies also showed a dramatic 53% decline in the reforming oblasts. In the meantime, later reforming oblasts experienced a marginal decrease in the frequency of contributions for these items and a slight increase in the overall level of payments. However, the study also highlights that the reforms did not change the total level of patient expenditure only its composition. The reduction in informal payment was compensated by the increase in the newly introduced formal co-payments. Thus, the overall financial burden for patients did not change. The authors conclude that the significance of the Kyrgyz reforms lies in increasing transparency through the formalization of patient payments while further improvement in financial protection remains on the policy agenda. We revisit these conclusions in this paper complementing the earlier data with a additional survey waves from 2003, 2004, and 2006.

### **3. Research questions**

This paper aims to answer three research questions:

1. What trends took place in informal payments in the Kyrgyz health system between 2001 and 2006 and to what extent are these trends explained by the introduced financing and service delivery reforms?
2. Which groups have benefited from the observed trends in informal payment and specifically has the total patient financial burden change for socially important groups including the exempt, pregnant women, children, and the elderly?
3. What is the total volume of informal payment in the health system today relative to other funding sources and what is the scope for its further reduction?

### **4. Data sources**

The data used in this analysis is based on five waves of surveys conducted with hospitalized patients 4-6 months after their discharge. Surveyed hospitalizations took place in February 2001, July 2001, April 2003, April 2004, and October 2006. (Table 1) The sample size of the surveys varied from 2,913 to 5,337 resulting in a database with 20,955 interviews on informal payment. This is the largest database worldwide documenting trends on informal payment using the same methodology across years.

**Table 1. Sample size of five survey waves**

Month of hospitalization	Number of interviews	As share of hospitalization* in month of survey
2001 February	2,913	7.4%
2001 July	3,731	9.9%
2003 April	4,440	9.5%
2004 April	4,534	8.0%
2006 October	5,337	9.4%

Note: among hospitals contracted by the MHIF

The list of patients hospitalized in the months indicated above and discharged home provided the sampling frame for the surveys. The patient population was stratified by oblast (8) and case-type (5) yielding 40 strata. Some cells of low sample size but of policy interest were over-sampled for adequate power (e.g. surgical cases in less populated oblasts). As a result, the survey is not self-weighting and sampling weights have been developed to represent the population of hospitalized patients.

Since the sampling frame was obtained from the database of the MHIF, patient identifiers were constructed such that the survey information obtained from patients could be merged with the data on supply side case characteristics recorded in the database of the MHIF. The resulting database is a rich dataset on informal payment as well as demand and supply sides characteristics of treatment allowing richer analysis of the determinants of informal payment than so far presented. The data merging took place by the researchers of the project and the MHIF did not have access to the individualized data on informal payment protecting patient and provider confidentiality.

**Table 2. Variables from survey and MHIF database**

Data from patient interview	Data from MHIF data-base
→ Services received and payments made during hospitalization	→ Age
<ul style="list-style-type: none"> <li>▪ Admission</li> <li>▪ Personnel</li> <li>▪ Drugs and medical supplies</li> <li>▪ Non-medical supplies</li> <li>▪ Food</li> </ul>	→ Gender
→ Contextual factors surrounding informal payment	→ Insurance status
<ul style="list-style-type: none"> <li>▪ Why paid?</li> <li>▪ Where paid co-payment?</li> <li>▪ Did patient know how much to expect to pay (officially, unofficially)?</li> <li>▪ Information sources</li> <li>▪ Coping mechanisms with payment</li> <li>▪ Satisfaction with care received</li> </ul>	→ Exemption status
→ Socio-economic status	→ Type of case
	<ul style="list-style-type: none"> <li>▪ Delivery</li> <li>▪ Surgery</li> <li>▪ Therapy</li> </ul>
	→ Case weight from prospective payment
	→ Referral
	→ Type of hospital
	<ul style="list-style-type: none"> <li>▪ Republican</li> <li>▪ Oblast</li> <li>▪ City</li> <li>▪ Rayon</li> </ul>
	→ Hospital
	→ Oblast of residence
	→ Officially registered co-payment paid by the patient



The desired sample size for each year was calculated based on the distribution of actual case load in each stratum. It was expected from the beginning that not all cases selected from the MHIF database will be found, the MHIF was asked to select more cases than the desired sample size. The randomly selected patient names and addresses were handed over to the survey company selected by WHO for this assignment through a competitive process. In all five survey years, the same company was awarded the contract. The list provided by the MHIF contained a small number of incomplete addresses each year where the survey company did not visit. The remaining cases were contacted and quite a significant number could not be found because respondents have moved without forwarding address, housing was demolished, or the address proved to be wrong. Only a very small percent of respondents refused to answer the questionnaire once they were identified and contacted never reaching then 1% of the visited locations. There were other reasons contributing to the inability to complete an interview such as patient died since the hospitalization, was re-hospitalized not in the state of answering the questions, never hospitalized, etc. Overall, the response rate for the survey varied from 74% to 100% in terms of the interviewed cases as a share of desired sample size and from 70% to 82% in terms of the interviewed cases as a share of contacted locations. The response rates varied by oblasts in the survey year and the sampling weights were adjusted for non-response.

**Table 3. Response rate by survey waves**

	<b>2001F</b>	<b>2001J</b>	<b>2003</b>	<b>2004</b>	<b>2006</b>
<b>Desired sample size</b>	<b>3460</b>	<b>4500</b>	<b>6000</b>	<b>4500</b>	<b>6500</b>
<b>Sample size provided by MHIF</b>	<b>4283</b>	<b>5505</b>	<b>5483</b>	<b>6352</b>	<b>7547</b>
Address incomplete in MHIF database	251	240	91	146	398
<b>Contacted locations</b>	<b>4032</b>	<b>5265</b>	<b>5392</b>	<b>6206</b>	<b>7149</b>
Could not be found	950	1398	900	1602	1686
Refused interview	22	26	0	68	54
Other reason	143	110	52	2	72
<b>Interviewed cases</b>	<b>2917</b>	<b>3731</b>	<b>4440</b>	<b>4534</b>	<b>5337</b>
<b>Refusal rate (Refused as % of contacted cases)</b>	<b>0.5%</b>	<b>0.5%</b>	<b>0.0%</b>	<b>1.1%</b>	<b>0.8%</b>
<b>Response rate 1 (Interviewed cases as % of contacted locations)</b>	<b>72.3%</b>	<b>70.9%</b>	<b>82.3%</b>	<b>73.1%</b>	<b>74.7%</b>
<b>Response rate 2 (Interviewed cases as % of desired sample size)</b>	<b>84.3%</b>	<b>82.9%</b>	<b>74.0%</b>	<b>100.8%</b>	<b>82.1%</b>

## 5. Survey instrument

Eliciting valid responses on informal payment is challenging task because respondents may not want to reveal that they engaged in informal or illegal activities, especially in surveys conducted in health facilities where they may fear an impact on their treatment. Conducting the survey 4-6 months after discharge reduces this fear. In order to further minimize potential biases of admitting illegal behavior, the survey instrument used in this study did not use the words “formal” and “informal” payment. Rather, questions were formulated to trigger patients’ memory of their detailed payment history. (Table 4) The variables for formal and informal payment were coded ex-post in the analytical phase by researchers. This was possible because the rules for patient payments in Kyrgyz hospitals are clear: co-payment is an official payment to be paid upon admission while

all additional payments to staff, for medicines, and supplies are informal. This approach allowed minimizing reporting bias and de-stigmatization of reporting an unofficial practice.

**Table 4. Prompted payment categories**

Payment to medical staff	Other payments
<ul style="list-style-type: none"> <li>▪ Physician treating the patient</li> <li>▪ Nurse</li> <li>▪ Surgeon</li> <li>▪ Anesthesiologist</li> <li>▪ Lab-staff</li> <li>▪ Diagnostics staff (e.g. X-ray technician)</li> <li>▪ Physiotherapist</li> <li>▪ Other</li> </ul>	<ul style="list-style-type: none"> <li>▪ Admission</li> <li>▪ Food</li> <li>▪ Medicine</li> <li>▪ Medical supplies (bandages, syringes, x-ray film, lab-test inputs)</li> <li>▪ Other supplies (linen, clothing)</li> </ul>

Although most payments have been made in cash in KGS, there were also instances of payments made in USD and in kind. To cover all possible payments, each payment question first asked the amount paid in cash in KGS and in USD, and then in-kind also in KGZ and USD. The dollar value was converted to KGS for the analysis using the mean street exchange rate of the month of hospitalization. (Table 5)

**Table 5. Example of formulation of informal payment questions**

1	Did You or someone else pay for the purchase of medicines during this hospitalization?	Yes.....1 No .....2 >>q.8	Cash.....1	_____som
				_____US\$
			In-kind .....2	_____som
				_____US\$

## 6. Indicators

Four indicators were constructed for the analysis for all informal payment categories and will be used in Section 6 to report results.

- a) **Percent of patients paying informal payment** – this indicator shows the prevalence of informal payment;
- b) **Mean and median payment among those who pay** – this indicator shows the mean/median size of transactions since those who do not pay are not included in the analysis and do not pull down the level of actual transactions with their zero payments;
- c) **Mean and median payment among all patients (a\*b)** – this indicator is influenced by both the prevalence of payment and its level among those pay;

- d) **Total volume of informal payment (a\*b\*hospitalizations)** – this indicator is influenced by the prevalence of informal payment, the mean level of the transaction, and the number of hospitalizations.

These indicators are calculated for the following payment categories: payment to medical personnel, payment for medicines, medical supplies, non-medical supplies and food. It is debated whether payment for food is an informal payment as patients pay all over the world for extra food when hospitalized. The Kyrgyz reforms aimed to improve food in the hospital setting and we report patient expenditures on food. When totals are presented, we indicate whether they include or exclude payments for food.

## 7. Results

In 2001, patients paid 1,479 soms on average when hospitalized. This amounted to 22% of annual per capita resources of an average Kyrgyz household that year as calculated by the National Statistical Committee<sup>1</sup> placing a large financial burden on households that experience hospitalization episodes. On average, 50% of these payments were for drugs (39%) and medical supplies (11%), 32% for food, 11% to personnel, and 7% for non-medical supplies. As we show in this section, there has been a significant reduction in some components of informal payments but not in all. The largest component of informal payment, medicines and medical supplies, reduced significantly between 2001 and 2006 and the evidence can be systematically linked to the introduction of the single payer system and restructuring efforts. (Section 7.1) On the other hand, informal payments to medical personnel, non-medical supplies and food have not yet reduced significantly and many factors account for this result. (Sections 7.2 and 7.3) While these trends have led to a sizeable reduction in overall patient financial burden (Section 7.4), informal payment associated with hospitalizations remains significant and estimated at 26-30% of total expenditures at the hospital level (Section 7.5)

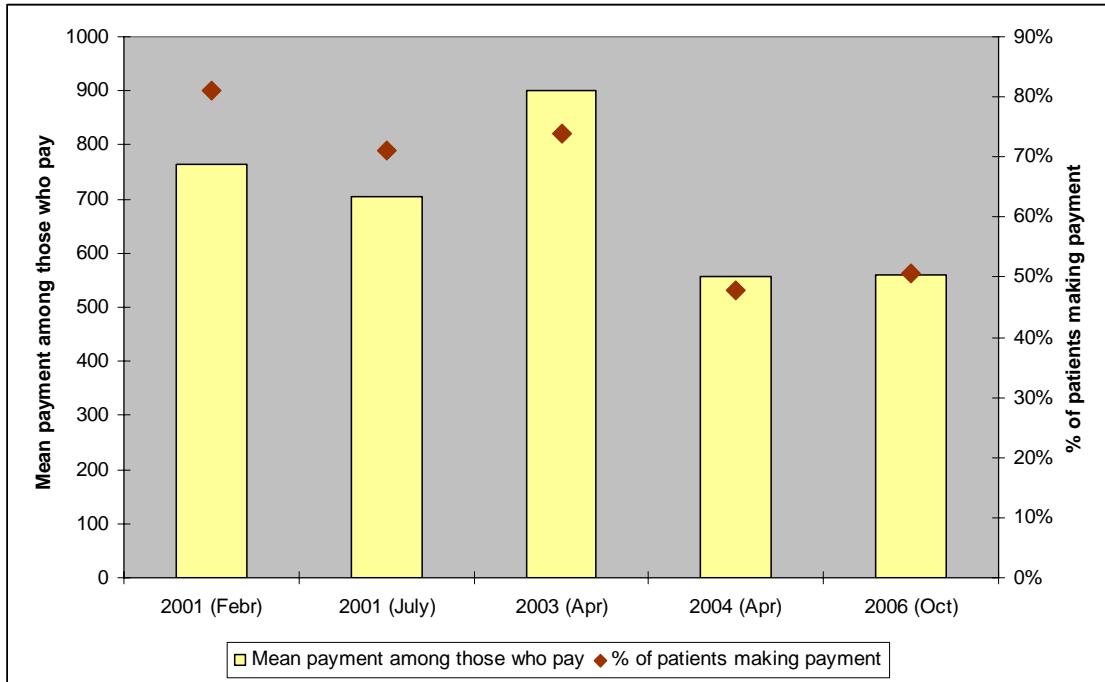
### 7.1. Patient payments for medicines and medical supplies

**During the 2001-2006 period, the frequency and level of patient payments for medicines and medical supplies show the most significant reduction of all categories of informal payment.** In 2001, 81% of hospitalized patients had to purchase medicines and 72% had to purchase medical supplies for the treatment they received in the hospital. In 2006, 51% of patients paid for medicines and 35% paid for medical supplies signifying a significant decline in the need for these purchases. The mean payment also declined significantly both for medicines and medical supplies. Those who purchased medicines spent KGS559 on average in 2006 (at 2001 prices) as opposed to KGS763 in 2001, a decline of 27% in real terms. Those who purchased medical supplies spent KGS127 on average in 2006 (at 2001 prices) as opposed to KGS172 in 2001, a decline of 26% in real terms.

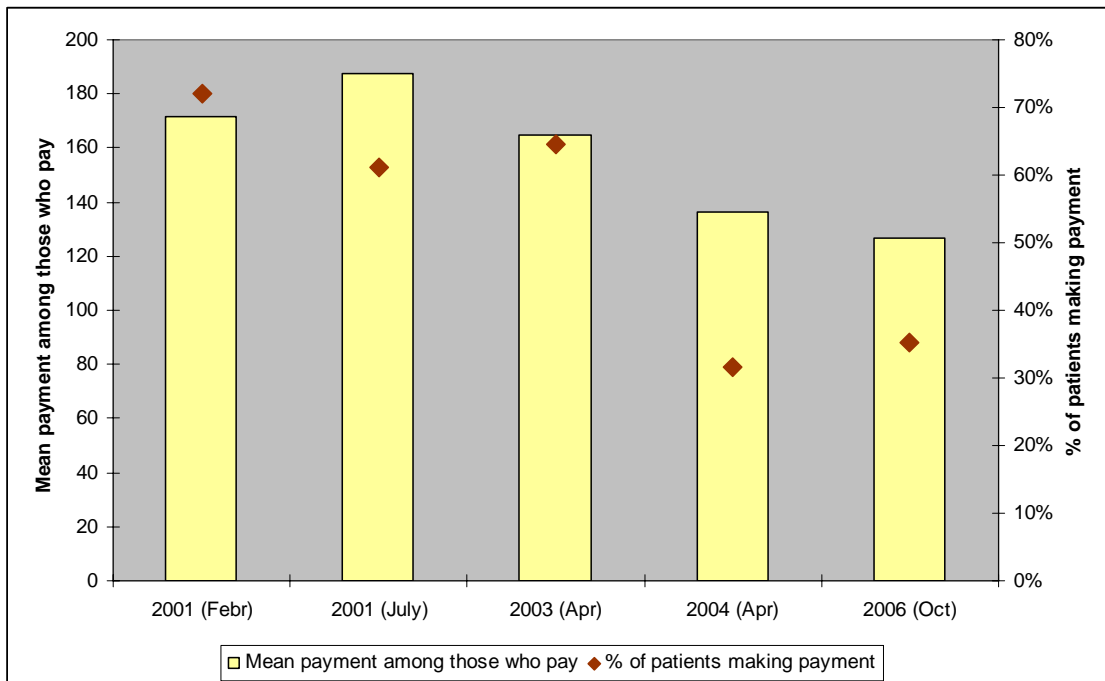
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<sup>1</sup> Based on total household consumption calculated from the Kyrgyz Integrated Household Survey.

**Figure 1. Payment for medicines (frequency and mean among those who pay)**

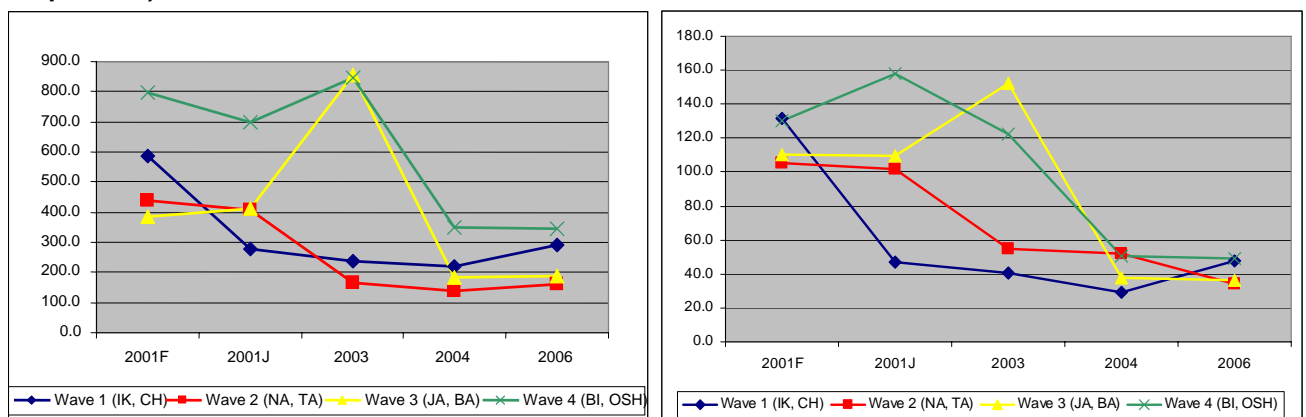


**Figure 2. Payment for medical supplies (frequency and mean among those who pay)**



Decline in patient payments for medicines and medical supplies is directly related to the implementation of the single payer reforms across the country which enabled restructuring of facilities and rationalization of intra-hospital spending allocations. The reforms were implemented in four waves with two oblasts joining the new system each year from 2001 onwards. The analysis by reform wave shows that the drops in informal payment for medicines and medical supplies occurred the year after the oblasts entered the single payer system. For example, Issyk-kul and Chui oblasts comprised the first wave and entered the single payer system in March 2001 with a drop in payment for medicines and medical supplies already noted in the July 2001 survey wave. At the same time, spending on medicines and medical supplies did not change in other oblasts during the same time. Similarly, Naryn and Talas oblasts comprised the second wave and entered the single payer system in March 2002 with a drop in payment for medicines and medical supplies noted in the 2003 survey wave. At the same time, spending on medicines and medical supplies actually increased in other oblasts during the same time. Similar correlation between reform introduction and drop in informal payment was observed in the remaining oblasts. Figure xx illustrates these trends for medicines and

**Figure 3. Mean payment for medicines and medical supplies by reform wave (among all patients)**



**This effect was enabled through the combination of mechanisms which included centralization of funds pooling, replacing historical line-item budgets with case-based payment mechanism, downsizing hospital infrastructure and introducing co-payment for hospitalizations.** The single payer system created oblast level purchasing pools and introduced case-based payment for hospitals. Case based payment provided an incentive for hospitals to reduce the cost of admitted patients, thus, treat more efficiently. Prior to introducing the case-based system, a team of experts worked with each hospital showing their revenues and expenditures under the new system with and without restructuring physical infrastructure. Hospitals in Kyrgyzstan function in several 2 floor buildings sometimes more than 20. As a result of this exercise, a rationalization process began and buildings or wings of buildings were transferred for other non-medical use, demolished, or rented out for commercial activity. Over the period of 2001-2004, there was a 40% reduction in floor space. Reduction in physical infrastructure and rationalization of staffing structures allowed significant savings on fixed costs and savings were re-allocated to medicines and medical supplies. This reallocation of funds, allowed hospitals to stock their facilities better with inputs needed

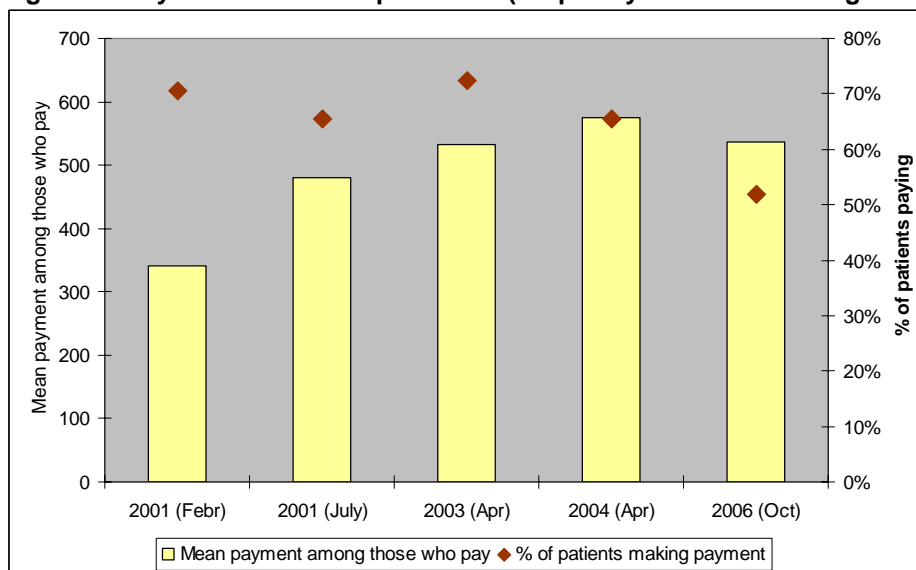
for direct patient care. Between 2000 and 2003, the share of health expenditures allocated to direct patient care expenses (medicines, supplies, and food) increased from 16% to 36%.

In addition, a co-payment for hospitalization was introduced within the State Guaranteed Benefit Package (SGBP) which regulated entitlements and obligations for receiving and paying health care services. The SGBP was rolled out as part of the reforms in the single payer system. Co-payment was introduced as a lump-sum payment payable per hospitalization at the hospital's cash desk. The system of co-payments was simple and easily understandable with different prices paid for surgery, therapy, and delivery on the one hand and exemption, insurance and referral status on the other hand. Facilities are allowed to keep the co-payment but were requested to allocate 80% of co-payments for the purchase of medicines and medical supplies and could use the remaining 20% for remunerating health care personnel. Co-payment collections comprise about 10% of hospitals' formal revenue stream and thus it meant quite a significant additional resource for medicines and medical supplies. Coupled with savings from spending on utilities and staff, this additional revenue allowed hospitals to significantly increase their spending on medicines and medical supplies and reduce the necessity for patients to supply these inputs for their care with a noticeable reduction in patient financial burden.

## 7.2. Payments to medical personnel

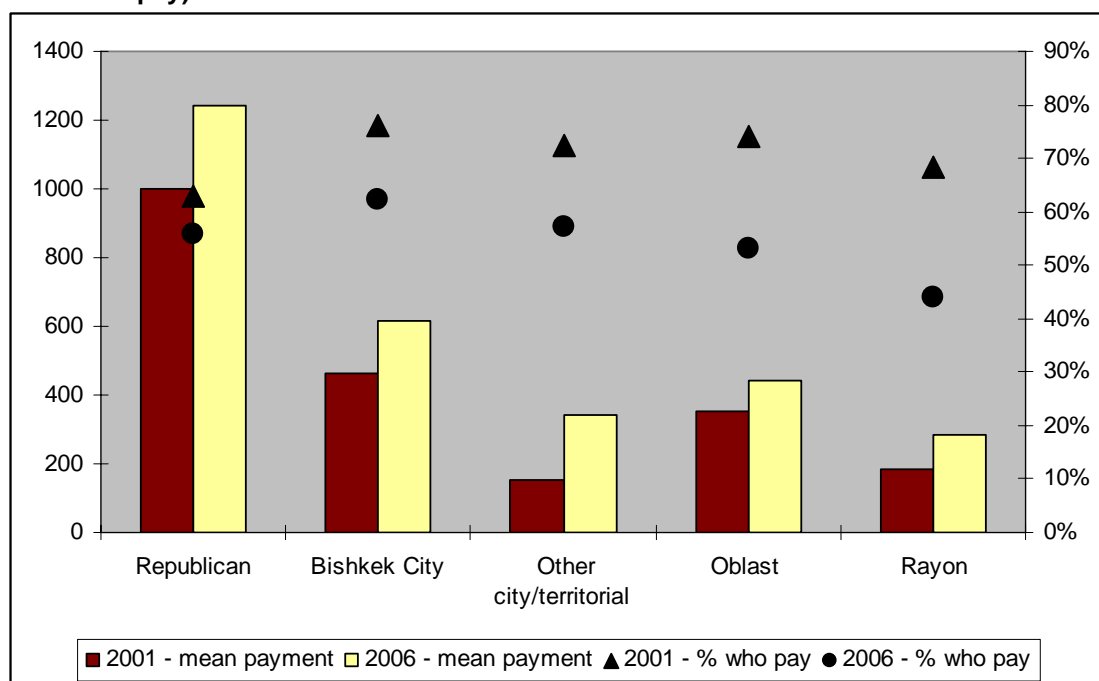
**In contrast, payment to medical personnel does not show such unequivocal improvement: although fewer patients paid in 2006 than in 2001, the amount paid by them significantly increased.** The frequency of payment to medical personnel declined from 70% to 52% of patients while the mean amount among those who pay increased from KGS342 to KGS536 or by 57% in real terms between 2001 and 2006. Although the reduction in the frequency of payment to personnel indicates some progress towards formalizing salaries of medical personnel, half of patients continue to pay to medical personnel and those who pay, they pay nearly 60% more in real terms than prior to the reforms.

**Figure 4. Payment to medical personnel (frequency and mean among those who pay)**



The trends by type of health facility show an interesting picture. The frequency of payment to medical personnel was quite equal across all types of hospitals (republican, Bishkek city, oblast, rayon) in 2001 averaging 70%. The frequency of payment to medical personnel declined significantly in all facilities with the biggest decline in rayon hospitals (from 68% to 44%) followed by oblast hospitals (from 74% to 53%), Bishkek city hospitals (from 76% to 62%) and republican hospitals (from 63% to 56%). The mean payment among those who pay showed large variation in 2001 across types of facilities prior to the reforms from KGS182 in rayon facilities to KGS1,000 in republican facilities. The mean amount of transaction increased significantly in all types of facilities: in republican facilities by 24%, in Bishkek city facilities by 32%, in oblast facilities by 26%, and in rayon facilities by 56%.

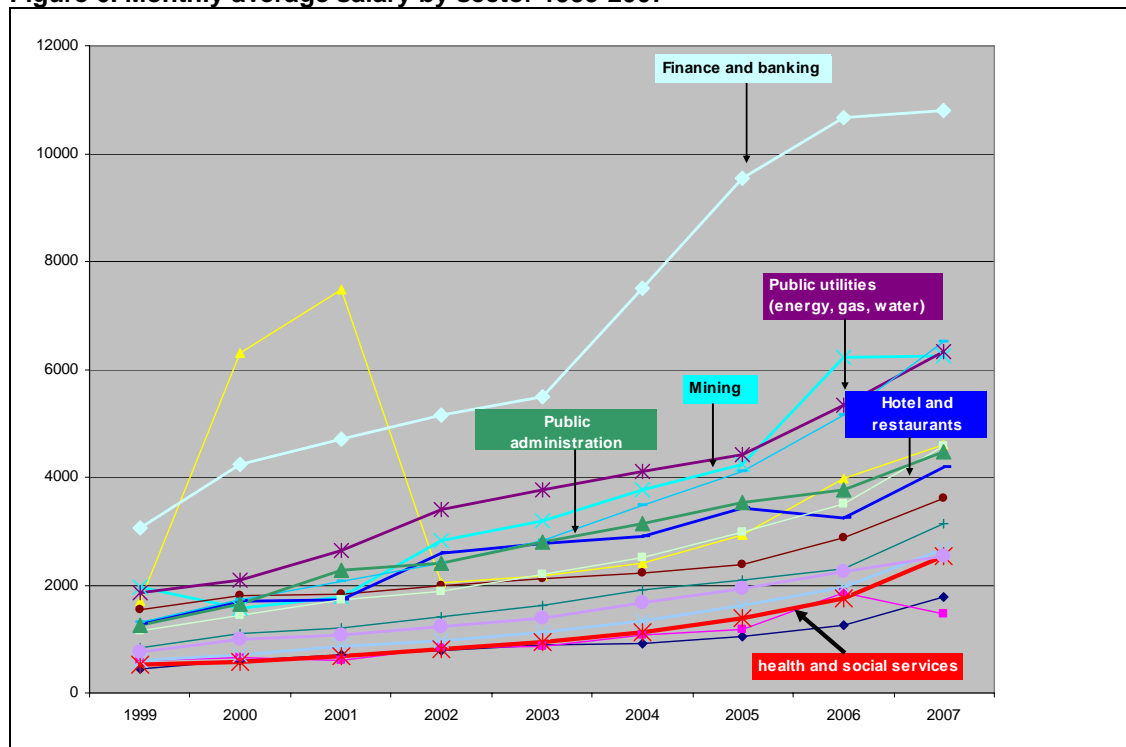
**Figure 5. Payment medical personnel by type of facility (frequency and mean among those who pay)**



**The main reason for lack of pronounced reduction in informal payment for medical personnel is the low average salary level in the health sector.** Between 1999 and 2004, health sector salaries were the lowest among all the sectors tracked by the National Statistical Committee lagging behind other public sectors such as public administration, public utilities and private sectors such as hotel and restaurant and banking. During this period, health sector salaries were half of those in other sectors. In 2005, the rate of annual salary increases began to accelerate particularly with the increased fiscal space brought about by the SWAp both in terms of budget funds and donor funds. Despite these increases, health sector salaries amounted to 64% of the mean salary level in 2007 indicating that the allocated salary increases are still not sufficient to meaningfully close the gap between health sector employees and the average Kyrgyz person working in the formal sector.

A recent study analyzing financial and non-financial reasons for migration of health personnel interviewed 243 medical personnel in rayons particularly exposed to migration and shortage of staff. (Murzalieva, Kojokeev et al. 2008) The study found that 83% of medical doctors expressed dissatisfaction with their pay levels. The salary level in this group averaged KGS3,040 (from KGS2,000-KGS4,000) which is below the minimal consumer basket of KGS3,365 per person per month. The interviewed doctors noted that existing salary levels do not allow to provide for their family and to keep up with the continuing rise of food prices and utilities. As a result, 77% of interviewed doctors were in debt and needed to look for other sources of income outside the health sector (e.g. agricultural work, trade, etc.) While a small portion of respondents were not dissatisfied with salary levels and earned within KGS5,000-7,000, they had to work multiple shifts without vacation and week-ends to maintain this level. The study concluded that extremely low salaries that cannot support families of medical personnel, heavy workload, working multiple shifts without vacation, has led to tensions, depression, deep resentment, and hopelessness among medical workers increasing the number of those who work abroad.

**Figure 6. Monthly average salary by sector 1999-2007**



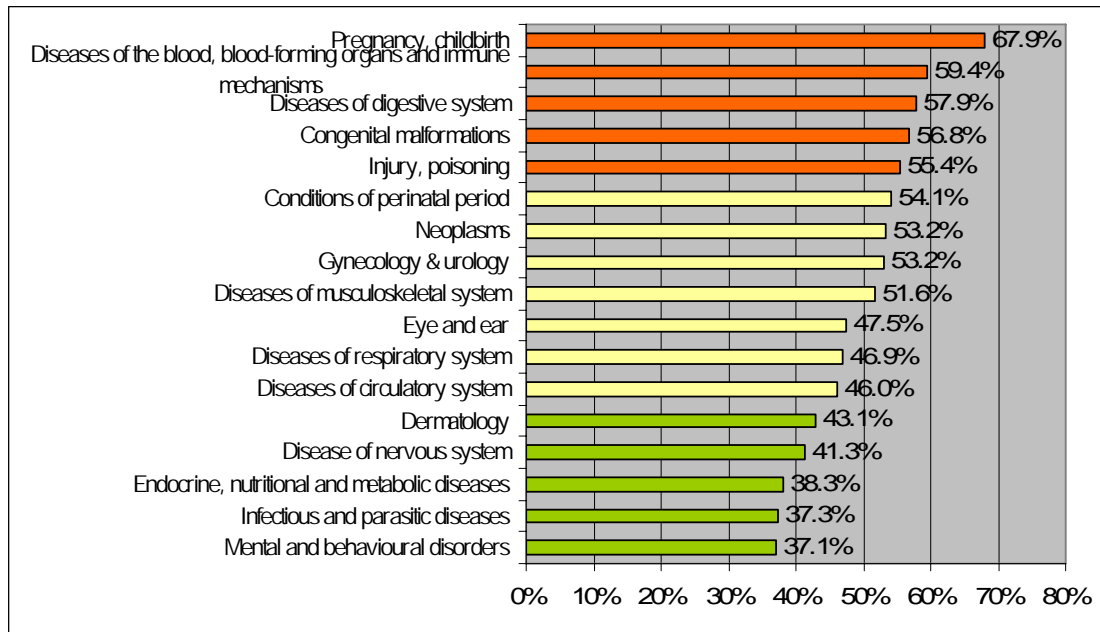
Source: National Statistical Committee

**Analysis of the average payment to personnel by specialty confirms anecdotal evidence that the price of getting care varies significantly by medical condition from KGS345 to KGS1766.** Of frequent concern is whether there are significant price barriers for seeking care for pregnant women and children. Figures 7 and 8 show that the frequency of informal payment to medical personnel is high for pregnancies and related conditions but its level is among the lowest among all specialties. On average, pregnant women paid KGS438 to personnel in 2006 for delivery related admission and KGS345 for admissions related to perinatal conditions. From a financial protection

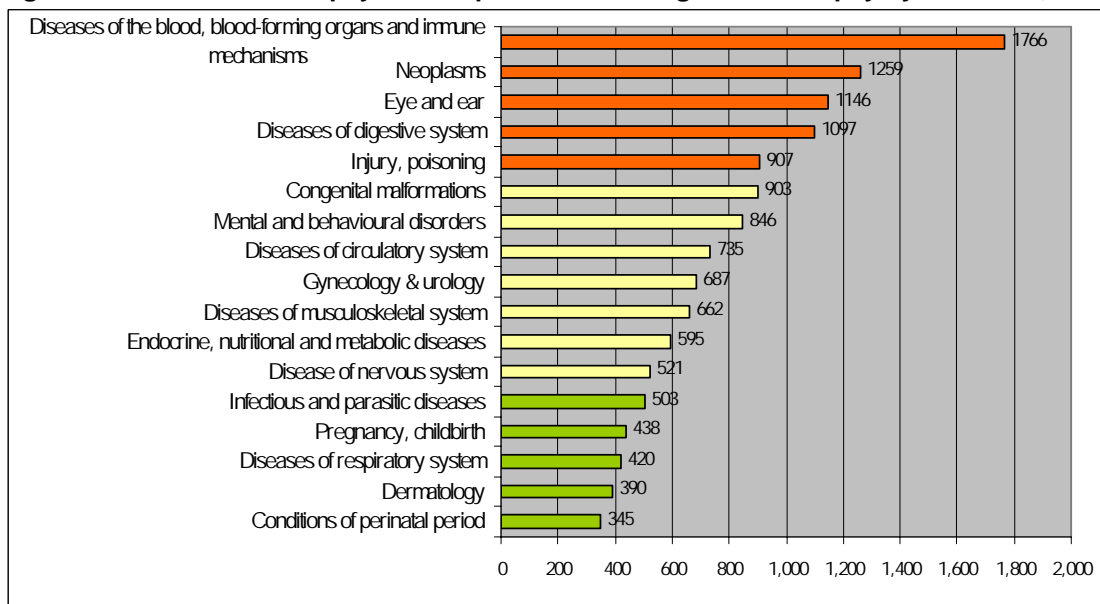


perspective, these payments should not give rise to concern as the 9 months of pregnancy allows women to save up resources for the delivery in contrast to patients with suddenly emerging health conditions (e.g. heart attack, stroke). Childhood admissions are mostly for infectious and respiratory diseases which also command the lowest fees among all conditions KGS508 and KGS420 respectively. In general, the highest payments are made for conditions requiring surgical interventions or use of high technology (e.g. cardiology, cancer treatment, abdominal survey).

**Figure 7. Frequency of informal payment to personnel by condition, 2006**



**Figure 8. Mean of informal payment to personnel among those who pay by condition, 2006**



### 7.3. Other payments

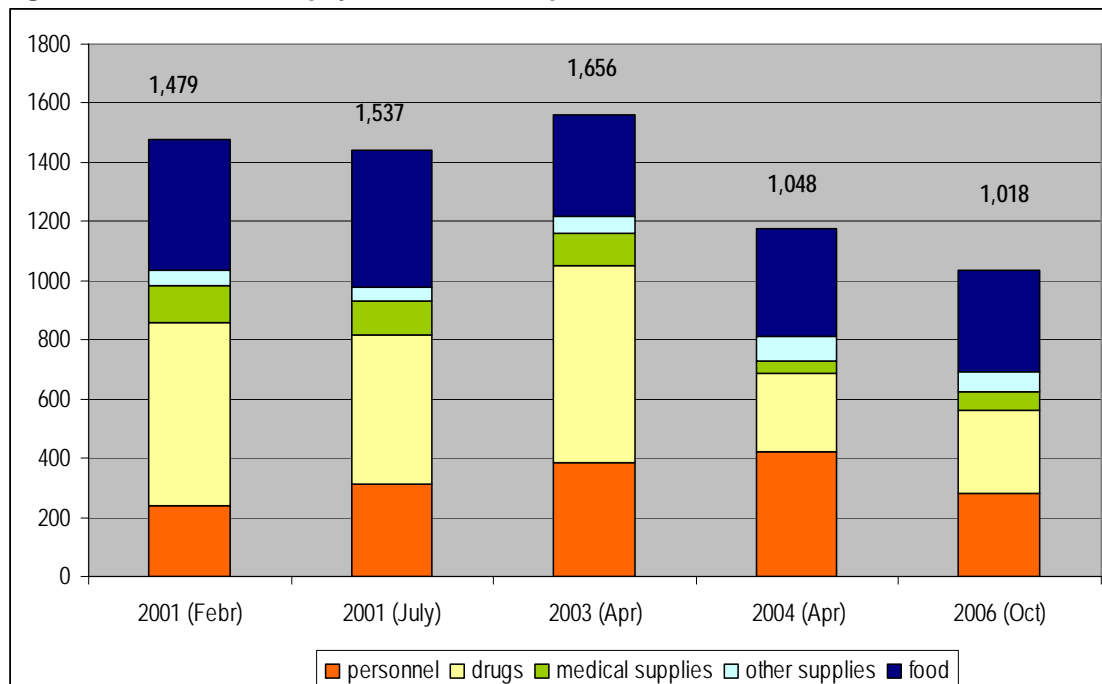
**Patient payments for food have also declined although the magnitude of decline was less pronounced than for medicines and medical supplies.** In 2001, 91% of patients purchased food while hospitalized and paid on average KGS490. In 2006, 76% of hospitalized patients purchased own food and paid on average KGS447 (at 2001 prices), a decline of 9% in real terms.

**There has been no progress in reducing patient payments for non-medical supplies.** Non-medical supplies include purchase of linen, light bulbs, notebooks, soaps, some of which patients purchase for their own use and some of which hospitals ask for. The frequency of these payments stayed stable during the reviewed time period (45% versus 44%) and the mean payment among those pay increased from KGS116 to KGS161 (by 39%) in real terms. Although this is a significant increase, the share of patient payments for medical supplies is quite small and thus this trend does not affect greatly the overall trend in patient payments

### 7.4. Total patient financial burden and impact on priority beneficiary groups

**Overall, total mean informal payment reduced significantly and the reduction was greater than the increase in formal co-payment leading to a net gain for patients.** The mean informal payment reduced by KGS461 in real terms mostly driven by the reduction in payment for medicines and medical supplies. The mean co-payment increased by KGS176 between 2001 and 2006 averaged across all patients. This comes to a net reduction in patient financial burden of KGS285 in real terms or 19%. In terms of household resources, these payments declined from xx% to yy% signifying a considerable reduction in financial burden for the households and freeing up of resources for other use. The composition of mean payment also changed significantly. The share of medicines and medical supplies declined from 50% to 35% of patient payments, and the share of payment to medical personnel increased from 11% to 19%.

**Figure 9. Mean informal payment across all patients**



It is of particular interest how patient financial burden changed for priority beneficiary group of the SGBP. Priority beneficiary groups are either exempt from co-payment or partially exempt. The definition of priority beneficiary groups has changed over the examined time period several times with the largest expansion of the SGBP in 2006. (Box 1) Priority beneficiary groups not paying co-payment or paying reduced co-payment make up 59% of hospitalizations and the financial burden of co-payments are spread over 41% of hospitalizations. In 2006, the structure of hospitalizations was as follows: non-exempt 41%, deliveries 24%, children under five 13%, socially exempt 11%, medically exempt 7%, and pensioners over seventy five 4%.

**The reduction in informal payment for priority population groups was particularly large. Since they pay no or reduced co-payment, their net gain from the reforms exceeded that of the general population.** The largest net gain is estimated for children under five years old with a net reduction in total patient payments (informal payment and co-payment) of KGS736 or 52% in real terms. The net reduction in total patient payments in real terms was 37% for pregnancies, 33% for medically exempt, 28% for pensioners over 75, and 13% for socially exempt. This suggests that the reforms had a good targeting outcome and particularly benefited priority population groups.

This good targeting result could be the result of a number of factors although these associations require further corroboration. First, with the exception of deliveries these groups require use of medicines and medical supplies. Since the changes were driven by a reduction in payments for medicines and supplies, priority groups could have benefited more extensively than the general patient population. Second, these groups are more likely to use health care services than the general population and thus may be more exposed to the SGBP and their right and obligations. As a result, they may be less

willing to pay informal payment. Third, these groups may be socially more economically constrained.

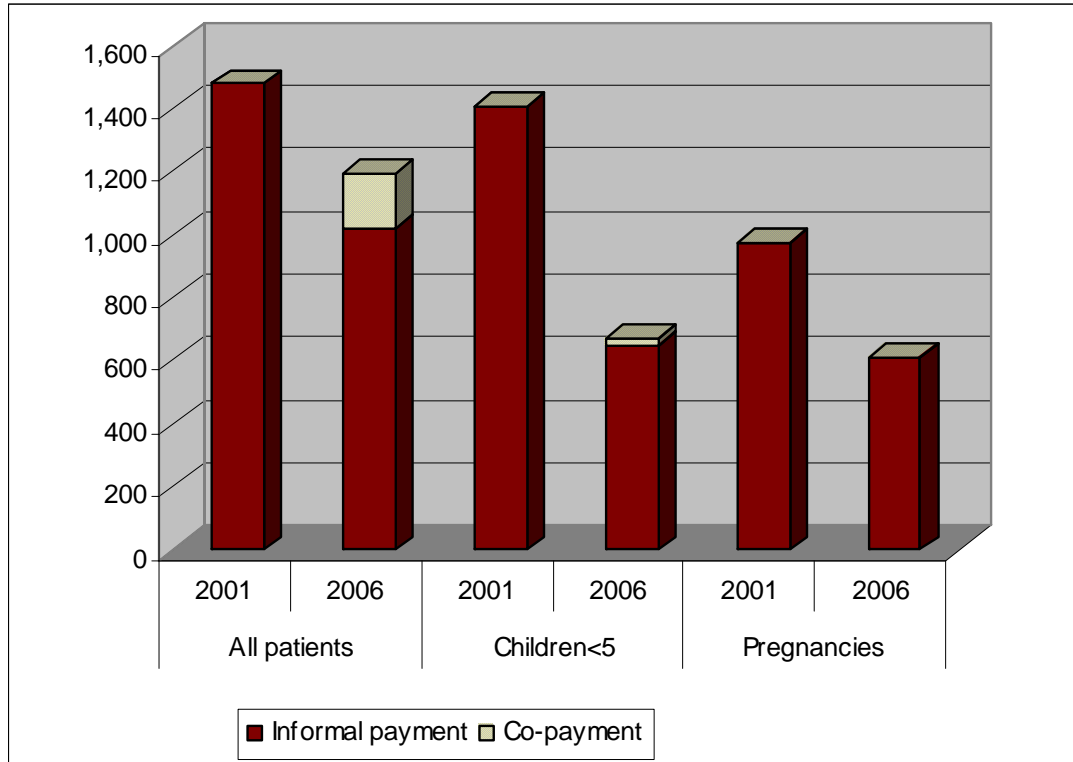
There are not only winners, however. The total payment burden increased significantly for those who are not part of the old exemption categories or the new beneficiary groups. In 2001, their total payments amount to KGS1,506 all through informal payment. By 2006, their co-payment burden increased on average to KGS452 in real terms while their informal payments reduced to KGS 1,215 in real terms. Overall, their total spending for a hospitalization episode increased to KGS1,667 or by 11%. This population group includes all children above 5 and working age adults with the exception of deliveries.

**Box 1. SGBP rules for priority beneficiary groups**

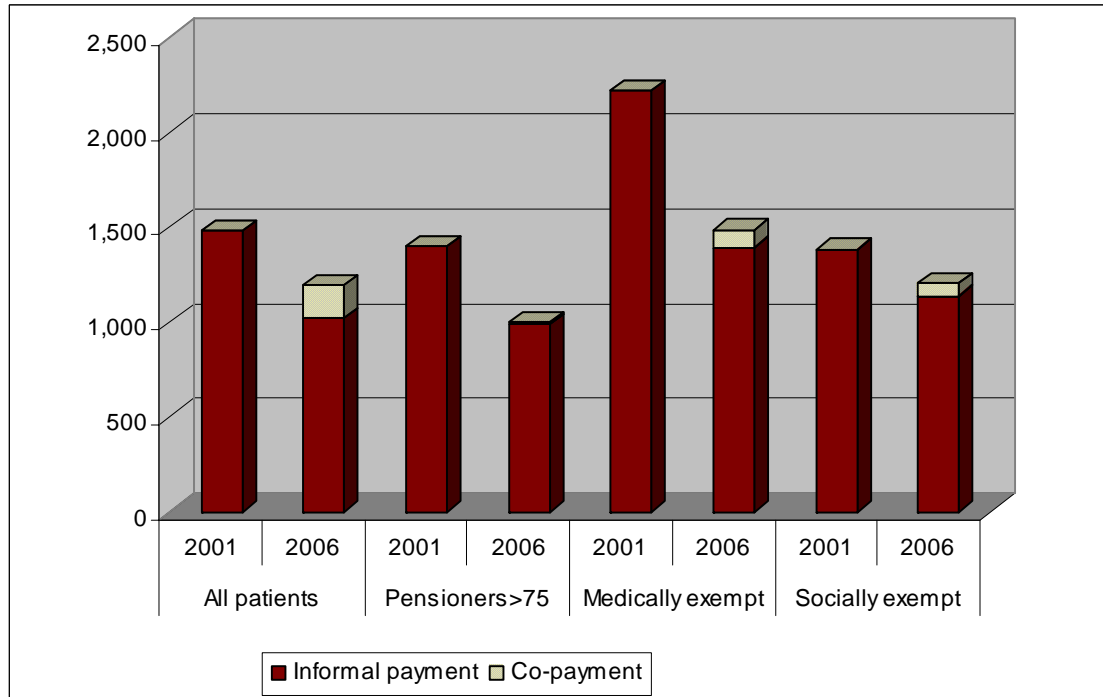
- **Those with certain medical condition or social status**
  - Exempted from co-payment from beginning
- **Pregnancies and deliveries**
  - 2001: Co-payment introduced like for other hospitalizations
  - 2002-04: Co-payment eliminated
  - 2004: Co-payment of KGS200 some re-introduced
  - 2006: Co-payment eliminated in the SGBP expansion
- **Children<5**
  - Children<1 exempt from co-payment from the beginning
  - Co-payment for children 1-5 eliminated in April 2006
- **Pensioners>75**
  - Co-payment eliminated in April 2006

With the 2006 expansion of the SGBP, about 40% of users of hospitals bear the entire co-payment burden while 60% are exempt. A 2007 study of the HPAU analyzed the fiscal consequences of the expansion of the SGBP and it concluded that the increase in public funding from 2005 to 2006 was slightly greater than the loss of the co-payment revenues following the policy change and thus the funding gap did not increase. However, the funding gap remains and had the policy change not occur, the increased health sector funding since 2006 could have closed the funding gap slightly.

**Figure 10. Total payments for children<5 and pregnancies**



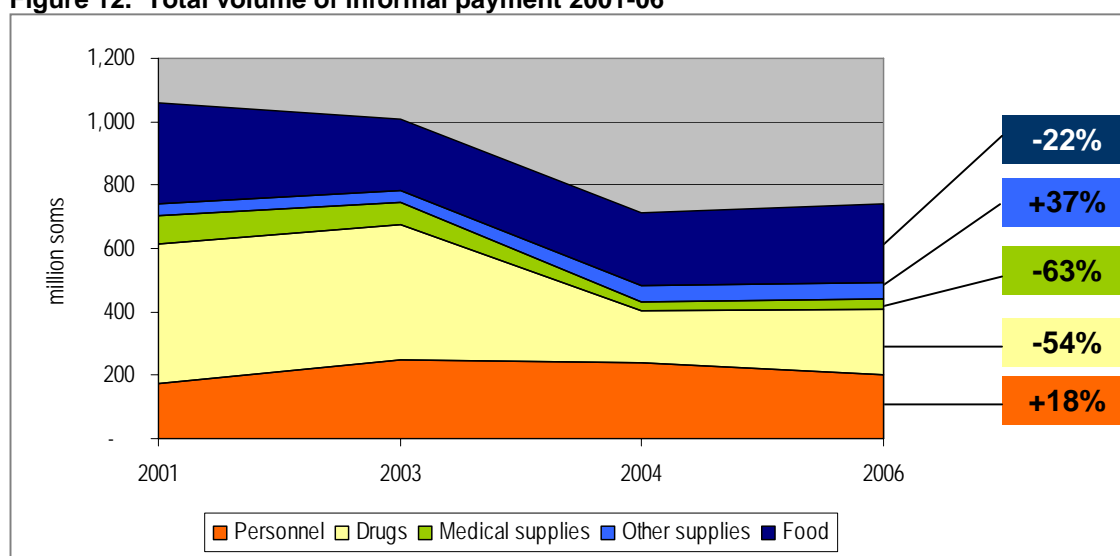
**Figure 11. Total payments for pensioners and exempt**



## 7.5. Total volume of informal payment

The total volume of patient payments (mean payment multiplied by the number of hospitalizations) also shows a significant reduction. In 2001, total patient payments in the hospital sector amounted to KGS1.06 billion including all types of payment listed above. There was a considerable decline in the total volume of patient payments for medicines (KGS236.8 million in real terms or 54%), medical supplies (KGS56.2 million in real terms or 63%), and food (KGS70 million or 22%). These positive trends have been slightly outweighed by the increase in the volume of payment to medical personnel (KGS 30 million in real terms or 18%) and other supplies (KGS14 million in real terms or 37%). As a result of these trends, the total volume of patient payments declined to KGS740 million (at 2001 prices) by 2006, a decline by KGS319 million in real terms or by 30%.

Figure 12. Total volume of informal payment 2001-06



Based on the total volume of informal payment, we calculated the share of informal payments in the hospital sector relative to official payment sources of public spending and co-payment for 2006. Since patients purchase food when hospitalized even in the best funded health systems, we calculated informal payment totals with and without patient spending on food. Without patient spending on food, the total volume of informal payment amounted to about 26% of spending on the hospital sector with the remainder composed of public spending (67%) and patient co-payments (7.3%). Including patient spending on food, the share of informal payment rose to 34% of total spending on hospitals.

**These figures on informal payment as a share of total hospital level spending indicate a funding gap of about 26-34% in the SGBP which is in the same range as other approaches aiming to estimate the funding gap in the SGBP.** The official methodology for estimating the financing needs for the SGBP was developed by Socium Consult and the MHIF jointly and adopted in 2005 by Government Decree # 280. This methodology estimates funding needs based in minimum standards in staff, facility, equipment, medicines, etc. Using this methodology, the funding gap in the SGBP

amounted to 27.4% in 2005 and 24.8% in 2006 after accounting for public funds and co-payment. (Manjieva et al. 2007, Socium Consult 2007) These figures are also similar although slightly lower than the ones presented in the KfW-funded AOK Consult Report: they estimated the funding gap of the SGBP at the hospital level at 39% driven mostly by the shortfall in salaries of medical personnel. (AOK Consult 2009) These three sources point to the root cause of the persistence of informal payment in the Kyrgyz health system: the committed public funds and co-payment revenues do not cover the costs of providing the benefits promised to the population in the SGBP and a funding gap remains which is filled by informal payments.

**Table 6. Share of informal payment in total hospital spending (2006)**

	<b>KGS</b>	<b>Share of total</b>
Public spending on hospitals	1,683,479,000	67.08%
Co-payment	182,400,000	7.27%
Informal payment w/o food	643,804,269	25.65%
<b>Total (1)</b>	<b>2,509,683,269</b>	<b>100.00%</b>
Public spending on hospitals	1,683,479,000	59.43%
Co-payment	182,400,000	6.44%
Informal payment w/ food	966,990,094	34.13%
<b>Total (2)</b>	<b>2,832,869,094</b>	<b>100.00%</b>

In summary, overall informal payment for hospitalizations reduced significantly between 2001 and 2006 from over KGS1.06 billion soms to KGS740 million in real terms. This reduction was driven by a reduction in informal payment for medicines and medical supplies. In contrast, there has been no reduction in patient payments to medical personnel. Despite the significant reduction, informal payment remains in the health system and makes up 26-34% of total expenditures for hospitals. The persistence of informal payment indicates that a funding gap for the SGBP remains although it has reduced significantly. In practical terms, funding gap in the SGBP leads to salaries that are lower than expected and to continued need for patients to purchase medicines and medical supplies although less frequently than previously.

It is an interesting question whether the reduction of informal payments could have been larger. The introduction of the new health financing arrangements between 2001 and 2004 were carried out under the conditions of declining and inconsistent funding flows to the health sector. First, oblast funding began to decline in the wake of successful restructuring since declining staff and beds triggered the well-instilled response of the Soviet budgeting system: if inputs decline, so should public funds. This mechanistic response effectively took out savings from the health sector reducing provider incentives to embark on painful downsizing processes elsewhere. Second, the introduction of co-

payment had a crowd-out effect on public spending and marginal resources were allocated to those sectors that did not have a chance to collect additional revenues through co-payment. (Kutzin 2004) Third, budgeted revenues were inadequately made available for the health sector leading to variable budget execution, regular sequestration, and insufficient transfers from the Social Fund to MHIF. These factors created a difficult situation for the MHIF on a daily basis to continue to meet contractual agreements to providers and to the population. This in turn was reflected in wages and availability of drugs and immediately drew significant discontent from key stakeholders. The funding situation began to improve in 2006 with the entrance of the SWAp with a significant increase in both budget allocations and execution.

## **8. Limitations**

The current study is the only study in the WHO EURO region on informal payment that used a specialized survey to measure the level of informal payments and a uniform methodology over a six year period. Thus, the resulting data is the highest quality data in informal payments in the region. Nevertheless, as all research projects, the current project also has limitations.

All surveys suffer from potential recall error. Respondents may not remember particular events asked in the interview. Often patients do not pay themselves while hospitalized but relatives pay on their behalf and the patient may not know accurately how much was paid. In the current survey, we aimed to improve recall error in several ways. First, there was only 4-6 months between the interview and the hospitalization. In international experience, this is reasonable since hospitalizations are important episodes that stand out in people's lives and likely to remember well within a year. Second, we break down expenditures in many different components to trigger respondents' memory about particular payments they may have otherwise forgotten. Third, the expenditure questions were formulated to ask for payment of the patient as well as others on his/her behalf. (See Section 5 for formulation and sequencing of questions) As a result of these factors, the level of informal payment presented in this paper is a likely underestimate of the true levels in each of the surveyed years. Nevertheless, as long as these issues affected the data equally across the years, the presented trends are a valid representation of the true trends in informal payments over time.

Sensitive survey questions may suffer from misreporting because respondents may not want to admit behaviors they think is illegal and inappropriate. We attempted to minimize misreporting the following ways. First, the survey is anonymous and respondents are re-assured about this in the introduction of the interview. Second, in the formulation of the questions, we asked patients for a detailed payment in history for the hospitalization episode without using the word "informal" or even hinting at the informal nature of these payments. Further informal payments have been discussed quite openly as a symptom of the under-funding of the sector, and thus, there is not a strong emphasis on the informal nature on these payments. Overall, we believe this is a minor threat to the validity of the study.



## 9. Conclusions and policy recommendations

Kyrgyzstan can demonstrate impressive results in the reduction of informal payments in the health system over a six-year period, particularly, for medicines, medical supplies and food. Kyrgyzstan is the only country in the former USSR to be able to demonstrate such results. Furthermore, this reduction in informal payments has been well targeted to priority population groups. These results have been driven by the establishment of the single payer system which included progressive centralization of funding and the introduction of population/output-based provider payment mechanisms. Centralized pooling and breaking with input based norms in budget formulation created the conditions for successful restructuring leading to a reduction in spending on infrastructure and increase in spending on medicines and supplies. These reforms were extensively piloted, and gradually introduced nationwide between 2001 and 2004. These reforms led to equalization of public expenditures across regions and more efficient resource allocation in health facilities. These two outcomes reduced the need for patients to pay for medicines, supplies and food when hospitalized. Overall, the reduction of informal payment in these areas contributed significantly to increased financial protection against the cost of illness.

While these achievements are impressive, a significant amount of informal payment remains in the health system. We estimated that informal payments make up 26-34% of total health expenditures on hospitals. The persistence of these payments indicates that there remains a funding gap for the SGBP which is not covered by public funding and co-payments. Furthermore, informal payment to medical personnel remains a concern and its volume has been growing at all levels of care. Although recent increases in health sector funding have been channeled to salaries of medical personnel to a large extent, they continue to lag behind the national average and many physicians face severe economic distress to make ends meet. Our study also found that the reduction in financial burden has been impressively targeted to priority population groups but the costs of this achievement fall on the 40% of hospitalizations who pay co-payment as well as informal payment. Overall, the persistence of informal payments remains a policy problem because it continues to present an unpredictable financial burden for patients and it undermines the credibility of the guaranteed nature of the SGBP.

There are no magic bullets on how to further reduce informal payments in the Kyrgyz health system. First, since informal payment is a symptom of a funding gap in the health system, its reduction can only be envisaged with further increases in formal (public and private) sources of funding. Further increase in budget funding, continued use of donor funds in the SWAp for the SGBP, potential increase in the payroll tax when the economy recovers, and increase in the co-payment are options to increase formal financing. Without this, reduction of informal payment for the current benefit package and service delivery system will not be possible.

Second, the SGBP needs to be revised within its current pricing structure which is simple and allows transparency. Modifications should be considered along the following lines: (i) co-payment levels should be adjusted to inflation of the past years and the level of co-payments should be raised; (ii) differentiation in co-payment between Republican facilities, Bishkek city facilities, and others should be increased to reflect the variation in

informal payment across these facilities, and (iii) a small co-payment for all exempt groups should be considered at a value of KGS200 which is not a major financial burden for the individual but due to the large volume of exempt cases (60% of all hospitalizations) it would mean a large revenue for the hospitals.

Third, further efficiency gains in the health system need to be sought. There is limited scope for further facility restructuring outside Bishkek and Osh cities. In these two cities, however, the issue has been on the agenda and political commitment is necessary for going ahead with actions. Second, the appropriateness of hospitalizations needs to receive a focus with further shifting of care to the outpatient level. Finally, energy efficiency of all facilities needs to be improved allowing further savings on utility costs for eventual reallocation to staff, medicines, and supplies.

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