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Kyrgyzstan

Health Financing
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WHO Barcelona Office for Health Systems Strengthening

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Abstract

Kyrgyzstan demonstrated impressive results in reducing informal payments in its health system between 2001 and 2006, particularly for medicines, medical supplies and food. This was achieved by introducing reforms to reduce inefficiencies in the health system, by strengthening primary health care, restructuring the hospital network and channelling the savings to medicines and supplies. The health financing reforms facilitated this transformation of service delivery by introducing a single-payer system, with progressive centralization of funds, pooling and introduction of population and output-based provider payment mechanisms. The findings demonstrate that policies matter and that the right mix of policies can contribute to reducing informal payments. Our results also show, however, that Kyrgyzstan could not sustain these gains in the longer run, as informal payments began to increase again after 2006, offsetting previous gains. This reversal was driven to a great extent by informal payments to medical personnel, despite a sizeable salary increase introduced in 2011, and to a lesser extent by informal payments for medicines and supplies. A number of factors contributed to the reversal of the positive trends in informal payments after 2006, including the over-extended State-guaranteed benefit package, the low salaries and poor working conditions of health workers, outdated purchasing mechanisms that fuel hospitalizations, rigidity in public finance, remaining inefficiency in service delivery, inefficient public procurement of medicines and supplies and the absence of provider performance monitoring. The persistence of informal payments remains a problem because they continue to impose an unpredictable financial burden on patients and undermine the credibility of the State-guaranteed benefit package. There is no magic bullet for further reducing informal payments in the Kyrgyz health system. A comprehensive, multi-pronged approach that addresses the causes simultaneously could succeed if public funding is maintained at current levels.

Keywords

Financing, Personal
Health Expenditures
Health Care Reform
Universal Coverage
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1. Introduction

Informal payments have been an important feature of health systems in countries in economic transition. Few studies have found a time trend, but it is widely believed that informal payments increased significantly in the early transition period, which was characterized by drastically reduced government budgets in the countries of the former USSR and central Europe. These budgetary reductions had a significant impact on health systems, which had been predominantly publicly financed and publicly provided. Health systems adjusted to the fiscal constraints by increasingly relying on direct patient contributions.

In most transition countries, direct contributions were informal in that they were unregulated and unmonitored, and the amount was left to the discretion of physicians and patients. They were also informal in that they contradicted the legal entitlements of patients to obtain care. Taking these features together, we use the definition of informal payments pioneered by Gaal et al. (2006), as "a direct contribution, which is made in addition to any contribution determined by the terms of entitlement, in cash or in kind, by patients or others acting on their behalf, to health care providers for services that the patients are entitled to."

In countries that experienced only modest reductions in public funding for health, such as Bulgaria, Hungary, Poland and Romania, informal payments have been reported only to medical personnel (Delcheva et al., 1997; Chawla et al., 1998; Mastilica and Bozikov, 1999; Lewis, 2000; Balabanova and McKee, 2002; Pavlova et al., 2003; Gaal et al., 2006; Vian et al., 2006; Stepurko et al., 2015a). In countries in which the decrease in public funding was dramatic (e.g. Georgia, Kyrgyzstan, the Republic of Moldova, Russian Federation, Tajikistan and Ukraine), informal payments became predominant, not only for medical personnel but also for drugs and medical and non-medical supplies (Abel-Smith and Falkingham, 1995; Gordeev et al., 2011; Gordeev et al., 2014; Ensor and Savelyeva, 1998; Lewis, 2000; Kutzin, 2001; Belli et al., 2004; Falkingham, 2004; Kutzin, 2004; Gotsadze et al., 2005).

Kyrgyzstan belongs to the latter group, as the decrease in public health expenditure in the first decade of transition 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 public spending was absorbed by the fixed costs of the inherited health service delivery system; thus, after paying staff costs and utility bills, hospitals had few resources to purchase medicines and medical supplies, and patients were asked to buy those required for their treatment. At the same time, physicians' wages decreased in both absolute terms and relative to the average national wage. Data from the National Statistical Committee indicate that wages in the health sector were 92% of the national average in 1994 and only 52% by 1999 (Kutzin, 2001). This led to migration of physicians from rural areas to urban centres and abroad and to increasingly frequent informal payments.

Kyrgyzstan introduced far-reaching health system reforms starting in 1996 through three comprehensive national reform programmes: Manas (1996–2006), Manas Taalimi (2006–2012) and Den Sooluk (2012–2016) (Kutzin et al., 2001; Balabanova et al., 2011; Ibraimova et al., 2011). One of the main objectives of the reforms was to reduce the financial burden of patients seeking care while preserving access to services. Given the limited fiscal space, it was clear that the health sector would not receive additional public funds to reduce

patient expenditures, and part of the solution had to involve efficiency gains. Downsizing the large hospital sector provided an opportunity to make savings and channel them to medicines, medical supplies and better-paid personnel in order to reduce out-of-pocket payments, including informal payments.

To facilitate service delivery restructuring, a comprehensive health financing reform was introduced to change fund flows and incentives. The new model of financing became known as the "single payer system". Its key feature was pooling of general tax revenues and complementary payroll tax contributions in the Mandatory Health Insurance Fund (MHIF). Pooling was first introduced at oblast level, to reduce the previous fragmentation in funding across administrative boundaries of oblasts, rayons and cities. This move created an opportunity to rationalize service delivery arrangements and equalize resource allocation within oblasts. In 2006, one national pool was created under the MHIF to equalize resource allocation patterns nationwide. The MHIF introduced new purchasing mechanisms for providers through capitation and case-based payments to replace the previous line-item budgets (Jakab and Kutzin, 2009; Kutzin et al., 2010). Additionally, a State-guaranteed Benefit Package (SGBP) was introduced to regulate entitlements and obligations for health care services. The SGBP includes free primary health care for all citizens and referral care against a co-payment.

The reforms began with experimentation and capacity- and institution-building in 1996, and the single-payer system was introduced gradually from 2001. By 2006, the new financial arrangements covered the entire country, and the focus shifted to consolidation and institutionalization. From 2010, however, after political turmoil and economic downturn, the health reforms slowed (Balabanova et al., 2011; Ibraimova et al., 2011), and health workers became more and more dissatisfied, accelerating outward migration (Balabanova et al., 2011; Health Policy Analysis Centre, 2014). In an attempt to retain health workers, the Government significantly increased the salaries of all workers in the health and other social sectors in 2011.

Previously, we assessed the impact of the health system reforms described above on informal payments. Early research showed important gains in reducing informal payments in oblasts (Issyk-kul, Chui, Naryn and Talas), particularly for medicines. The reduction was particularly large among vulnerable groups that are priorities for protection (Kutzin, 2004). This early research provided important operational information for the reform teams so that they could adjust policies and build political capital by demonstrating progress. Once the single-payer system was rolled out nationwide, we demonstrated that the sum of health system reforms had resulted in a reduction in informal payments during 2001–2006 nationwide, particularly for medicines, medical supplies and food (Jakab et al., 2009). We also noted that the reforms described above had no impact on informal payments for medical personnel. Further, we looked at informal payments to medical personnel in detail and noted no evidence of price discrimination by socio-economic status, suggesting that a one-price policy prevailed. We concluded that, despite common claims by physicians, informal payments were regressive and clearly disadvantaged the poor, without the option of protection mechanisms (Jakab, 2007).

In this report, we complement our previous trend analysis with two additional survey waves, conducted in 2010 and 2013, to determine whether the positive trend in informal payments had been sustained. We also investigated whether

the increase in salaries in 2011 reduced informal payments to health personnel. To answer these questions, we used a unique dataset of 28 524 interviews collected during the seven survey waves between 2001 and 2013. This is the largest database in the world on trends in informal payment collected by the same method over many years.

The paper is structured as follows. We discuss methodological issues in section 2, present key findings on trends in informal payments in section 3, discuss our findings and link them to policy instruments in section 4 and present policy recommendations in section 5. Section 6 concludes.

2. Methods

Empirical studies of informal payments are challenging from a methodological perspective (Chereches et al., 2013; Stepurko et al., 2010). Because of the informality of the practice, people may not want to share their experience openly, which may affect survey results. As the main approach to studying informal payments is surveys, the range of physician-related and facility-related covariates may be limited or inaccurately collected. Repeated surveys in the same country are often conducted with different survey instruments and sampling approaches, making it difficult to establish time trends. In our approach, described below, we tried to address all these concerns.

2.1 Data sources

We combined administrative data from the case records of the MHIF with survey data. The analysis is based on seven survey waves of hospitalized patients. The interviews were conducted 4-6 months after discharge in the patients' homes to ensure confidentiality and to distance reports of informal payments from the care location (Chereches et al., 2013).

Table 1. Sample sizes of five survey waves, 2001–2013

Date of hospitalization	No. of interviews	Proportion of all hospitalizations in the month of the survey
February 2001	2913	7.4%
July 2001	3731	9.9%
April 2003	4440	9.5%
April 2004	4534	8.0%
October 2006	5337	9.4%
March 2010	5623	7.4%
March 2013*	1946	4.2%

Only hospitals contracted by the MHIF
*Only three oblasts (Issyk-kul, Osh, Chui) and Bishkek City were included in this survey.

2.2 Sampling, sample size and response rate

The number of interviews conducted in the seven waves varied from 2913 to 5337, for a total of 28 524. The populations in the samples were stratified by oblast (eight) and case type (five), yielding 40 strata. Some cells of small sample size but of policy interest were over-sampled to ensure adequate power (e.g. surgical cases in less-populated oblasts). As a result, the survey was not self-weighting, and sampling weights were used to ensure representativeness.

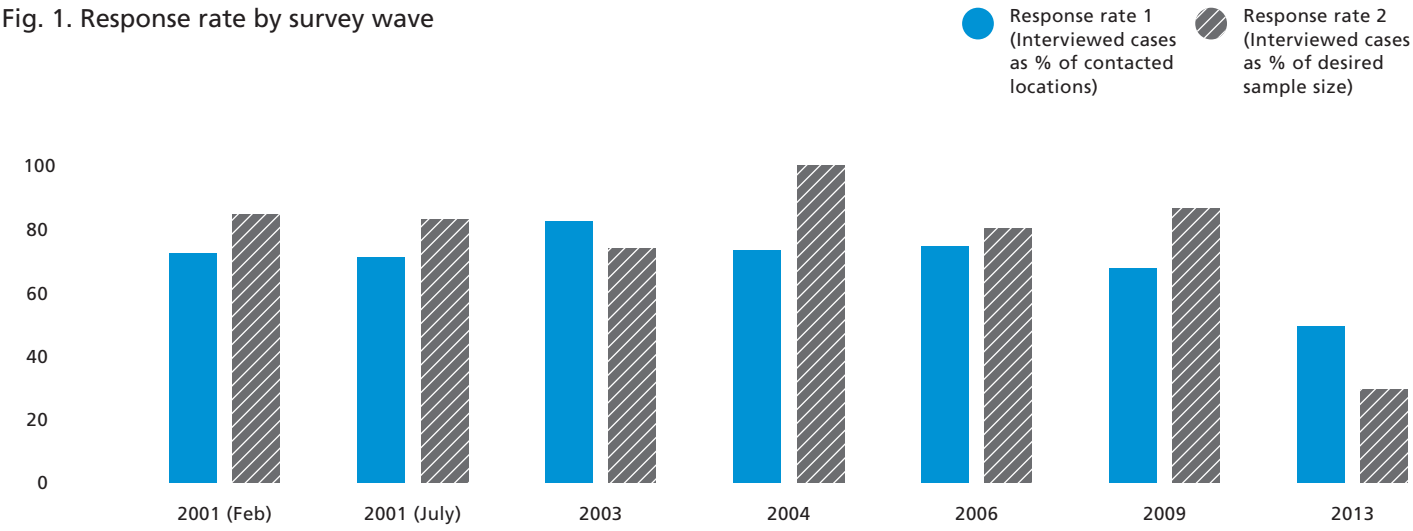
Survey respondents were randomly selected from the case records of the MHIF in a given month. The survey company was given the names and addresses of these former patients to locate them for interviews; however, the lists contained a few incomplete addresses each year, so that the survey company did not visit an average of 5% of potential respondents. Furthermore, an average of 24% of former patients could not be found because they had moved without leaving a forwarding address, the house had been demolished or the address proved to be wrong. During the latest survey, in 2013, there were many more incomplete addresses than in other years (about 36%). The survey company visited the local administration to find former patients on the basis of their name, age and occupation in order to improve the response rate in the last wave.

The refusal rate can influence the results of surveys by introducing non-response bias (Rindfuss et al., 2015). Potential respondents refused to answer the questionnaire in only about 1% of locations. Others could not be interviewed because of death since hospitalization, re-hospitalization, inability to answer questions or never having been hospitalized (Table 2). Overall, the response rate in the first six surveys was 74–100% of the desired sample size and 68–82% of locations (Fig. 1). The response rate in the last survey was lower: 58% of locations and 38% of the desired sample) (Fig. 1). The response rates varied by oblast, and the sampling weights were adjusted for non-response.

Table 2. Sample sizes and reasons for no interview, by survey wave

	2001 (February)	2001 (July)	2003	2004	2006	2009	2013
Desired sample size	3460	4500	6000	4500	6643	6500	5095
Sample size provided by mandatory health insurance fund	4283	5505	5483	6352	7547	8701	5095
Address incomplete in database	251	240	91	146	398	402	1736
Contacted locations	4032	5265	5392	6206	7149	8299	3359
Not found	950	1398	900	1602	1686	2544	557
Refused interview	22	26	0	68	54	122	36
Other reason	143	110	52	2	72	10	782
No. of people interviewed	2917	3731	4440	4534	5337	5623	1946
Refusal rate (as % of contacted cases)	0.5%	0.5%	0%	1.1%	0.8%	1.5%	1.1%
Response rate 1 (as % of contacted locations)	72.3%	70.9%	82.3%	73.1%	74.7%	67.8%	57.9%
Response rate 2 (as % of desired sample size)	84.3%	82.9%	74.0%	100.8%	80.3%	86.5%	38.2%

Fig. 1. Response rate by survey wave



2.3 Combining administrative and survey data

As the sampling frame was obtained from the database of the MHIF, patient identifiers were constructed such that the information obtained could be merged with case characteristics in the database. This resulted in a rich dataset on informal payments as well as the characteristics of treatment on the demand and supply sides, allowing analysis of the determinants of informal payments (Table 3). The data were merged by the researchers, and the health insurance fund did not have access to individualized data on informal payments, thus protecting the confidentiality of both former patients and providers. Patient names and addresses were discarded from the merged database after the interviews were completed.

Table 3. Variables from the survey and from the MHIF database

Data from patient interviews	Data from the mandatory health insurance fund database
Services received and payments made during hospitalization	Age
Admission	Gender
Personnel	Insurance status
Drugs and medical supplies	Exemption status
Non-medical supplies	Type of case
Food	Delivery
Context of payment	Surgery
Where was payment made?	Therapy
Did the patient know how much to expect to pay?	Case weight from prospective payment
Motivation for making payment	Referral
Information sources about amount	Type of hospital
Mechanisms for coping with payment	State
Satisfaction with care received	Oblast
Socioeconomic status	City
	Rayon
	Hospital
	Oblast of residence
	Officially registered co-payment by the patient

2.4 Survey instrument

The survey instrument was identical for all seven surveys and was administered at participants' homes. It consisted of eight sections, including detailed questions about informal payments by category of payment (Table 4).

Table 4. Categories of prompted payment

Payment to medical staff	Other payments
Treating physician	Admission
Nurse	Food
Surgeon	Medicine
Anaesthesiologist	Medical supplies (bandages, syringes, X-ray film, laboratory tests)
Laboratory staff	Other supplies (linen, clothing)
Diagnostic staff (e.g. X-ray technician)	
Physiotherapist	

In order to minimize any bias due to inaccurate responses, the survey instrument did not include the words "official", "formal", "unofficial" or "informal" payment. Rather, the questions were designed to trigger the participant's recall of the details of payments made, including in-kind payments, which were then converted into monetary terms (Table 5). Although most payments were made in cash, in KGS, some were made in US dollars. Each question began with amounts paid and in-kind payments, in order to capture all possible payments. During the analysis, US dollar values were converted to KGS at the mean street exchange rate of the month of hospitalization.

Table 5. Example of formulation of questions about informal payment

Did you or someone else pay for the purchase of medicines during this hospitalization?	◯ Yes	◯ No	◯ Cash	KGS _____
				US$ _____
			◯ In-kind	KGS _____
				US$ _____

The variables for formal and informal payments were coded in the analytical phase on the basis of the rules for patient payments in Kyrgyz hospitals: co-payment is an official payment to be paid upon admission, while all additional payments, to staff, for medicines and for supplies, are over and above the entitlement for care and are thus regarded as informal. This approach minimized reporting bias and removed the stigma of reporting an unofficial practice. Detailed records of payments were analysed without use of the words "informal" or "unofficial".

The survey instrument also included a section on the socio-economic status of the participant, with questions on assets (e.g. land, cattle, car), living conditions (e.g. type of house, number of rooms) and other aspects (e.g. consumption of meat, taking a holiday in the past year). Each asset category was given a weight or index in order to distribute the interviewed participants by socio-economic status into quintiles (Jakab, 2007).

2.5 Indicators

We created five categories of informal payments: medical personnel, medicines, medical supplies, non-medical supplies and food. It is debatable whether payment for food represents informal payment, as hospitalized patients all over the world pay for extra food. As one aim of the Kyrgyz reforms was to improve the food in hospitals, however, we analysed this expenditure as well. Totals are presented with and without payments for food.

For each category, we present four indicators:

- percentage of patients who made informal payments, i.e. the prevalence of informal payments (P);
- mean and median amounts among those who paid, i.e. conditional means and medians (E);
- mean and median payments by all patients (T = P x E); and
- the total volume of informal payments (V = P x E x Q), which is influenced by the prevalence of informal payments (P), the mean amount of transactions among those who paid (E) and the number of hospitalizations (Q).

2.6 Limitations

This study is based on a specially designed questionnaire on informal payments used uniformly over 13 years. This is, therefore, the longest comparable database on informal payments in the WHO European Region and possibly worldwide. Nevertheless, the survey and its results have some limitations.

All surveys suffer from potential recall error. Respondents may not remember particular events, and, often, patients do not make payments themselves while hospitalized but are paid for by relatives, so that the patient may not know exactly how much was paid. In the current survey, we used several techniques to improve recall. First, we left only 4–6 months between hospitalization and the interview. International experience indicates that this is reasonable delay, as hospitalization is an important episode that stands out in people's lives and they are likely to remember it well within a year. Second, we broke expenditures down into many different components to trigger respondents' memory about particular payments. Third, the questions on expenditure were formulated so as to cover payments both by patients and by others on their behalf (see section 3 for formulation and sequence of questions).
Sensitive survey questions may introduce misreporting because respondents may not wish to admit to behaviour that they consider illegal or inappropriate.

We attempted to minimize misreporting by ensuring that the survey was anonymous and by reassuring respondents about confidentiality at the beginning of the interview. In formulating the questions, we asked participants for details of payments for hospitalization without using the word "informal" or even hinting at the informal nature of the payments. As informal payments were discussed openly as a symptom of the underfunding of the sector, there was no strong emphasis on their informal nature.

While these efforts may have improved recall and minimized misreporting, we believe the levels of informal payment presented in this paper are probably underestimates of the true levels in each year of the survey. Assuming that these issues affected the data equally in each year, we believe that the trends presented reflect true trends in informal payments over time.

Finally, the quality of the data in the last survey wave was not up to the standards in the earlier survey waves. More addresses in the MHIF database were incomplete, and it was more difficult to find the sampled respondents. While we attempted to adjust for this limitation in known ways, we consider the 2013 data to be weaker, and the results should be interpreted with greater caution.

3. Key findings

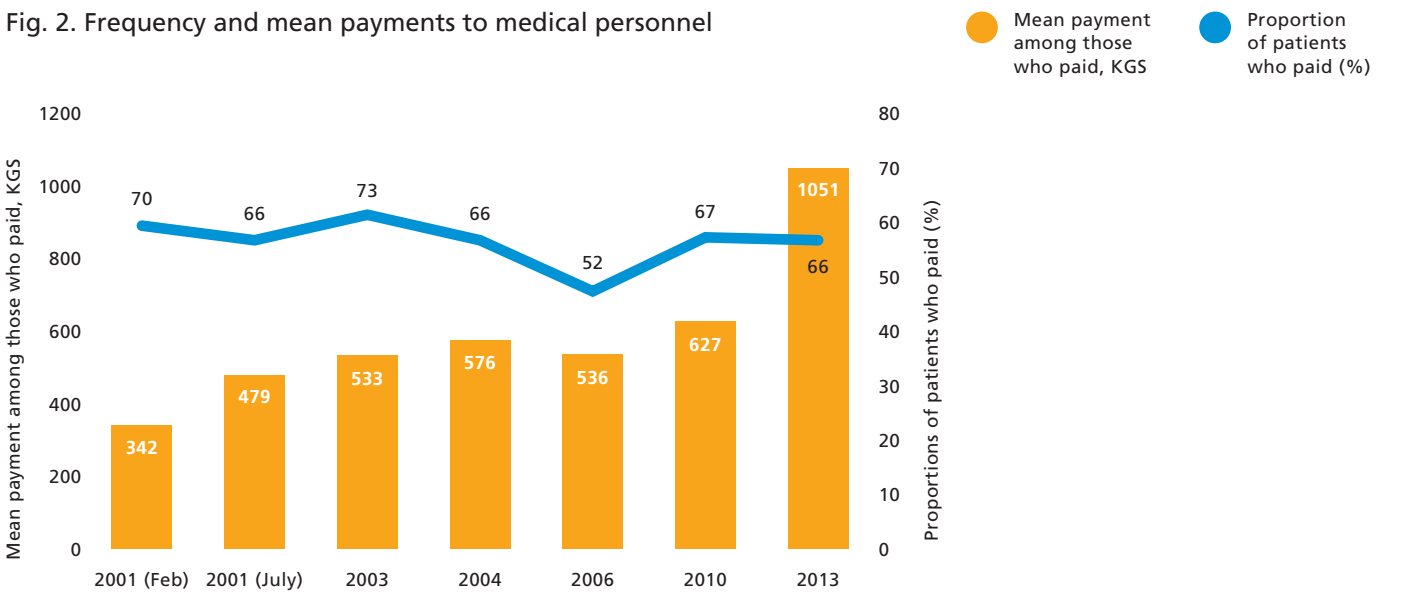
In this section, we present our key findings. We begin with trends in the components of informal payments (to medical personnel, for medicines, medical supplies, non-medical supplies and food), building up to an overview of total informal payments. Of these, informal payments to medical personnel and for medicines were the most significant contributors to total informal payments (51% and 32% of the total in 2013, respectively). Informal payments for medical and non-medical supplies were small (7%), and food represented the remaining 10%.

3.1 Informal payments to medical personnel

Between 2001 and 2006, some progress was made in reducing informal payments to medical personnel. The proportion of hospitalized patients who made informal payments to medical personnel decreased significantly, from 70% to 52%, while the mean payment increased slightly in real terms with each survey but appeared to stabilize and even decrease between 2004 and 2006 (Fig. 2). This picture reflects some progress in formalizing the salaries of medical personnel, although half of all patients still had to pay. This period coincides with the introduction of the single-payer system and the co-payment policy of the SGBP (Kutzin et al., 2010).

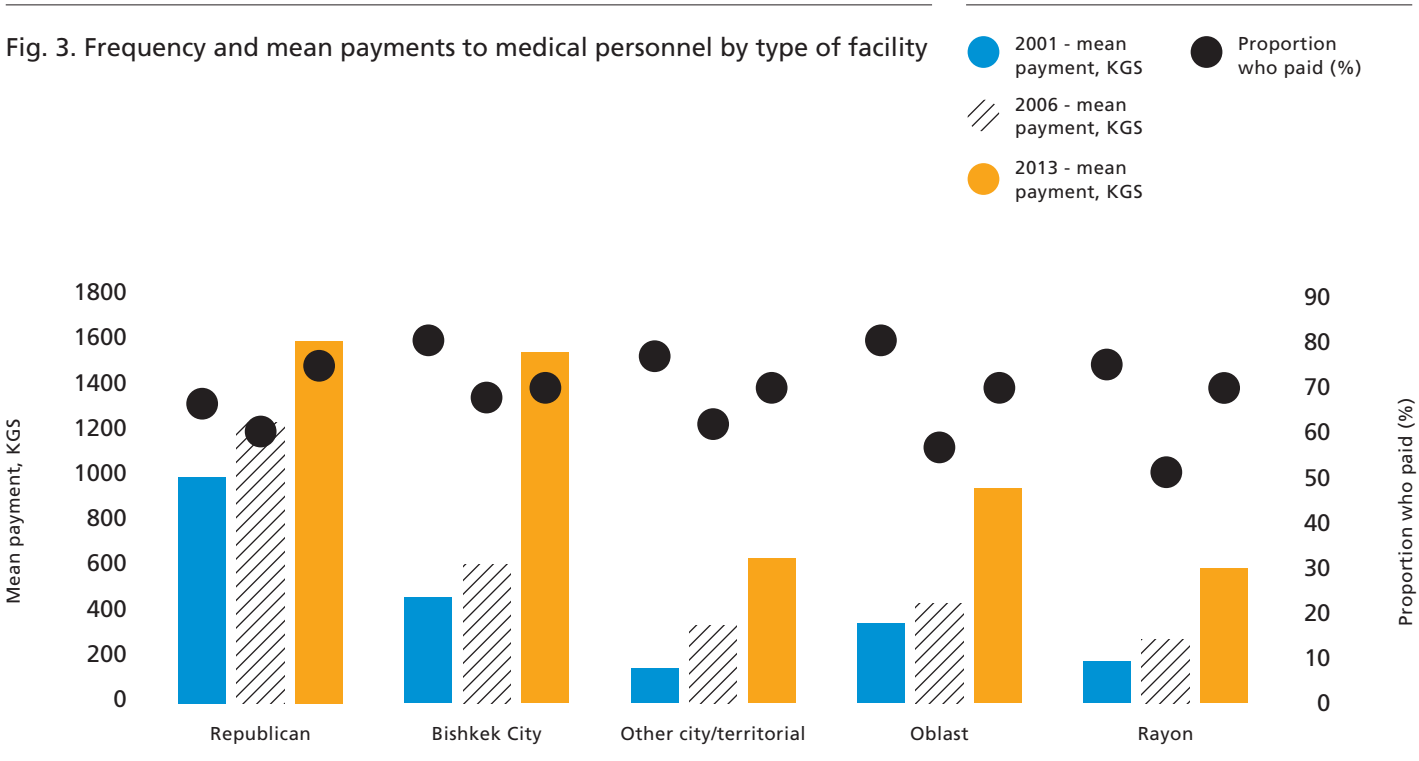
Informal payments to medical personnel began to increase again after 2006, in terms of both frequency and mean payment. The proportion of hospitalized patients who paid personnel increased from 52% to 66% between 2006 and 2013, and the mean amount of payment increased from 562 KGS to 1051 KGS in real terms, an increase of 79%. These recent trends eroded the earlier gains in formalizing the salaries of health workers, and the 2011 salary increase does not seem to have halted the process.

Fig. 2. Frequency and mean payments to medical personnel



Differences by type of facility in the percentage of people who paid was small, but the amounts paid varied significantly. Health personnel in Republican and in Bishkek City facilities received significantly higher informal payments than those in oblast and rayon facilities (Fig. 4). The proportion of patients who made informal payments to medical personnel was around 70% in 2001 in all four types of facility and had decreased significantly by 2006. The decrease was particularly large in oblast and rayon facilities (from 74% to 53% and from 68% to 44%, respectively), which had been the most proactive in the reforms and closest to the population. By 2013, the proportion of patients who made payments to medical personnel increased again to more than 60% in all types of facility. Republican facilities still had the highest levels of informal payment, followed by those in Bishkek City, oblasts and rayons. The mean payment by those who paid increased slightly between 2001 and 2006 and markedly between 2006 and 2013 in all facilities. Interestingly, the mean amount paid increased the most in Bishkek City facilities and is now on a par with payments in Republican facilities.

Fig. 3. Frequency and mean payments to medical personnel by type of facility



Analysis of informal payments to personnel by specialty shows that the price of care varied significantly by medical condition. We used the International Classification of Diseases (ICD) codes in the health insurance fund database to separate informal payments to personnel by specialty (Figs 7–10). The following patterns emerged.

- Pregnancy and related conditions are among the most frequent payment category (68% of deliveries in 2006 and 76% in 2013), but the amounts are among the lowest of all specialties (438 KGS in 2006 and 845 KGS in 2013).
- Patients with chronic and acute noncommunicable diseases (of the circulatory, respiratory and digestive systems) paid in 50–60% of the cases but paid a moderate amount.
- The frequency of informal payments for treatment of cancer increased significantly, from 53% to 70%, and the mean amount nearly tripled, from 1259 KGS in 2006 to 3574 KGS in 2013.

Fig. 4. Frequency of informal payments to personnel by medical condition, 2006 and 2013 (proportion who paid (%))

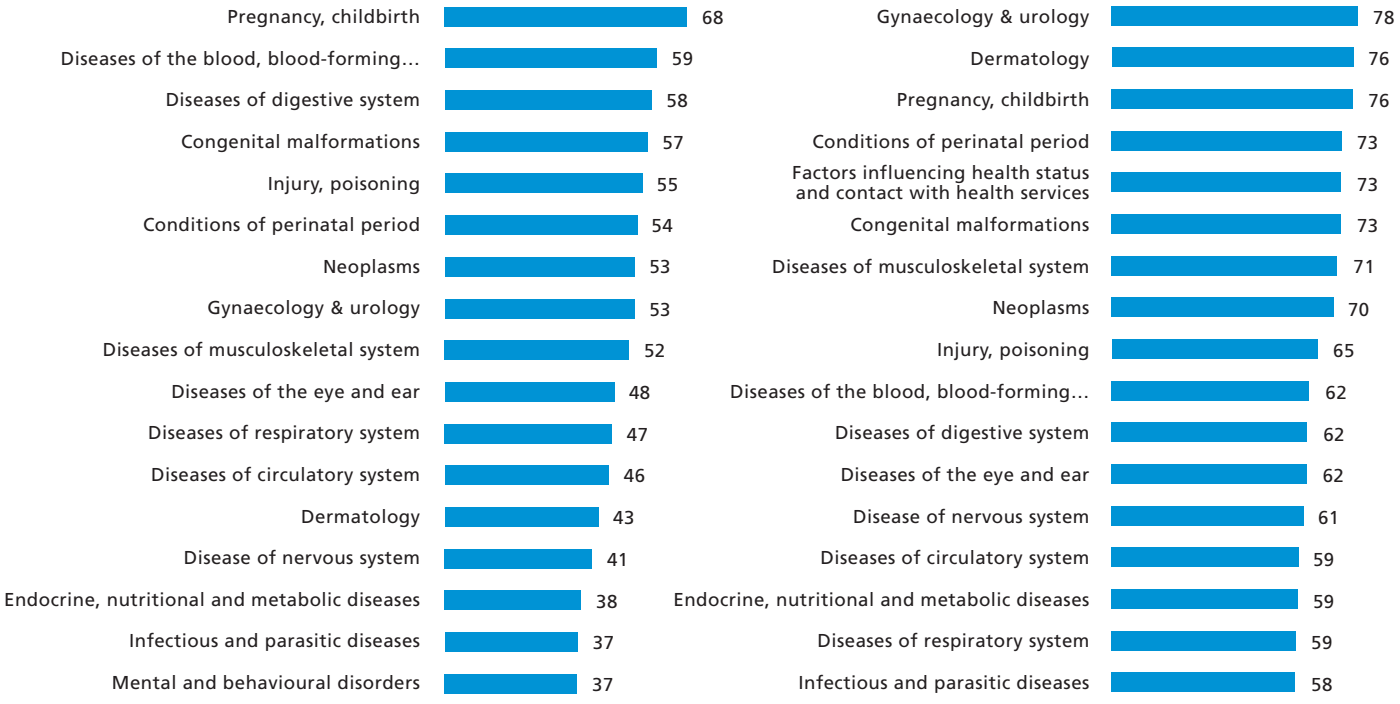
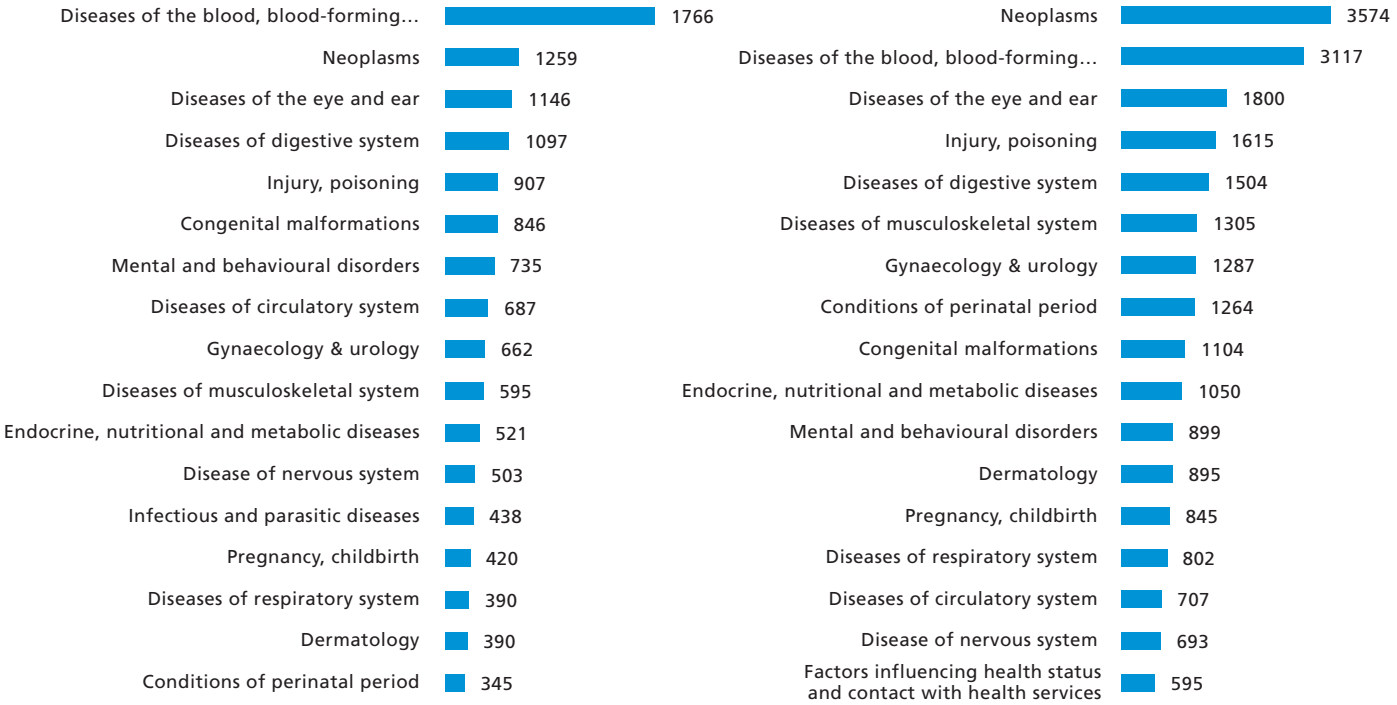


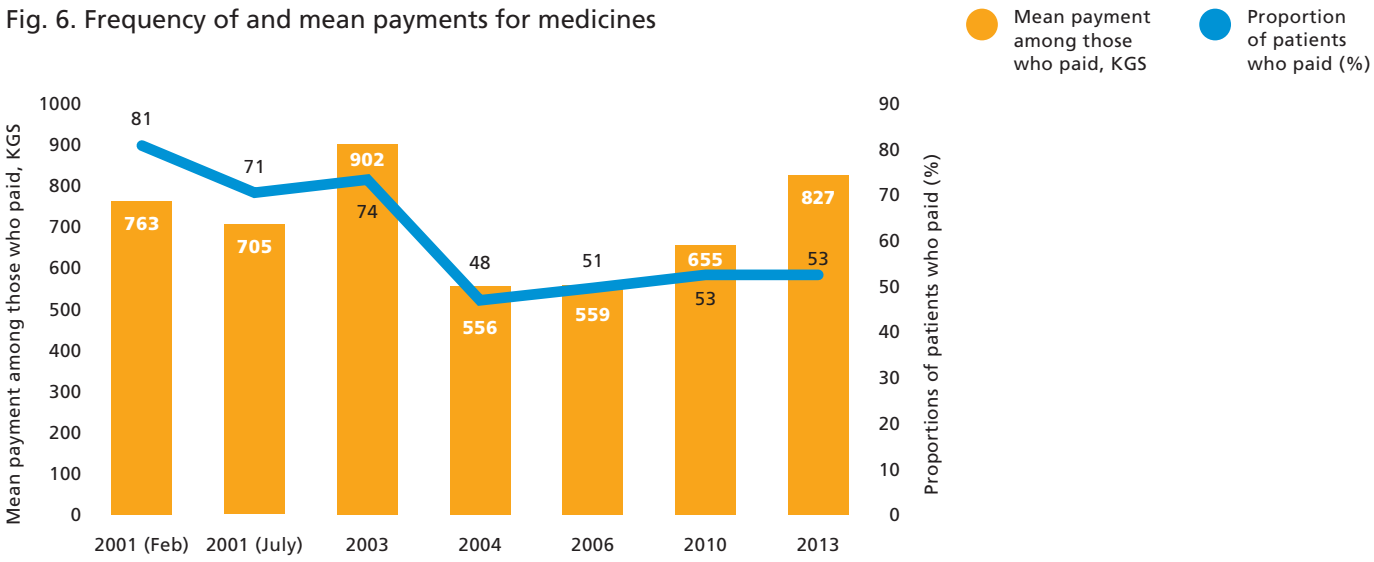
Fig. 5. Mean informal payment to personnel by medical condition (KGS), 2006 and 2013



3.2 Patient payments for medicines

Between 2001 and 2006, there was a large decrease in informal payments for medicines, which coincided with national introduction of the single-payer system and the SGBP. At the start of the reforms, in 2001, a staggering 81% of hospitalized patients had to purchase their medicines, paying an average of 763 KGS. After introduction of the single-payer system and the SGBP, these amounts decreased significantly, and, by 2006, 51% of patients spent an average of 559 KGS (in real terms at 2001 prices) (Figs 6 and 8). The new financial contractual arrangement triggered reconfiguration of service delivery, with significant savings on fixed costs, which in turn allowed reallocation of savings to medicines and supplies. The Ministry of Health and the MHIF regularly verified that hospitals indeed had the drugs promised in the SGBP, and patients could file complaints through widely publicized phone lines (Jakab and Kutzin, 2009).

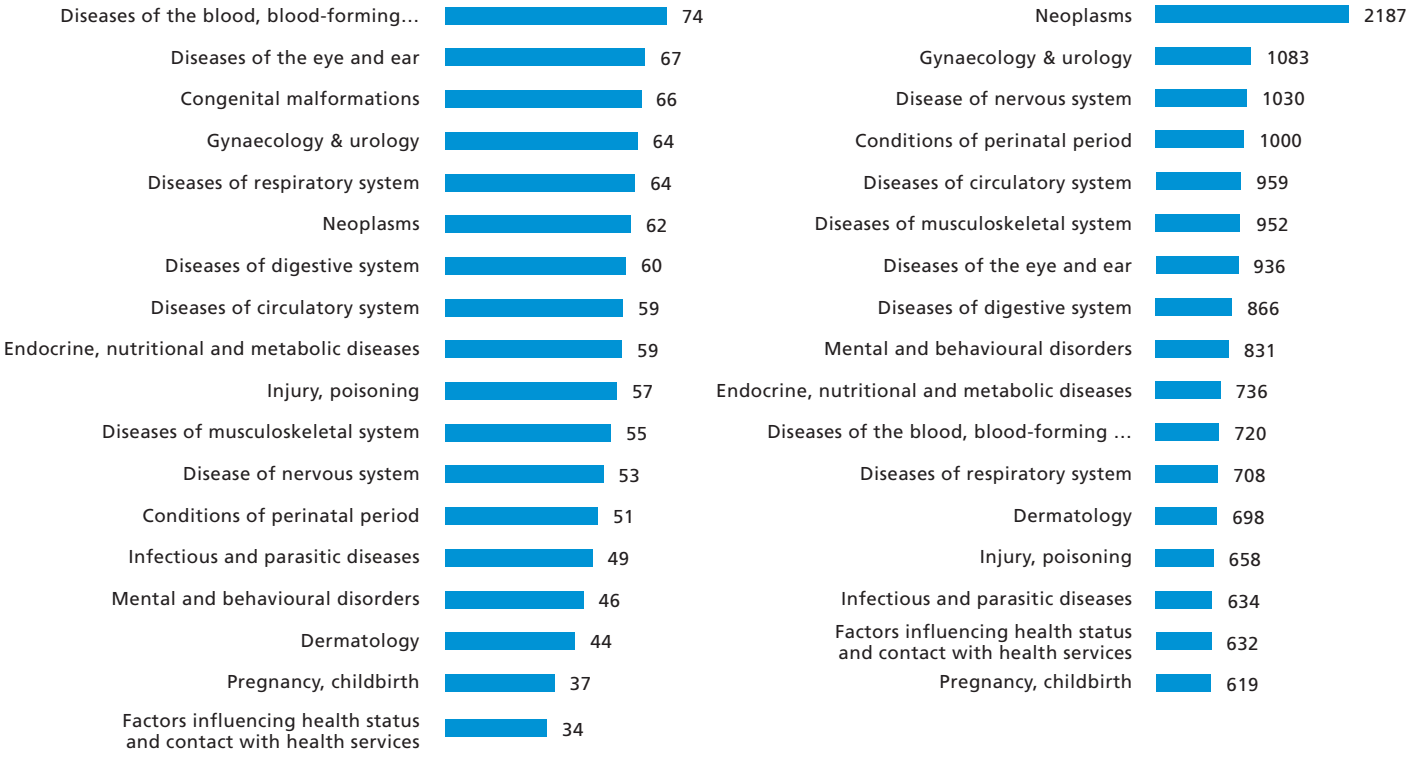
Fig. 6. Frequency of and mean payments for medicines



After 2006, an interesting pattern emerged. **The percentage of patients who made informal payments for medicines stayed roughly the same, but the amount of the payments increased.** The proportion of patients who had to purchase drugs remained at about 51–53% after 2006, suggesting that the health financing and restructuring reforms had had a lasting impact on intra-hospital allocations and the availability of medicines in facilities. The increase in the mean level of payment is in line with observations in other sources, suggesting that medicine prices in Kyrgyzstan are rising and require more policy attention.

Informal payments for medicines varied significantly by medical condition, from 619 KGS to 2187 KGS in 2013. In 2013, the most frequent payments for medicines were associated with hospitalization for diseases of the blood or blood formation (74%) and malformations (66%) (Fig. 7). The cost of medicines was highest for patients with cancer (2187 KGS), and 62% of those hospitalized with cancer had to purchase medicines for their care.

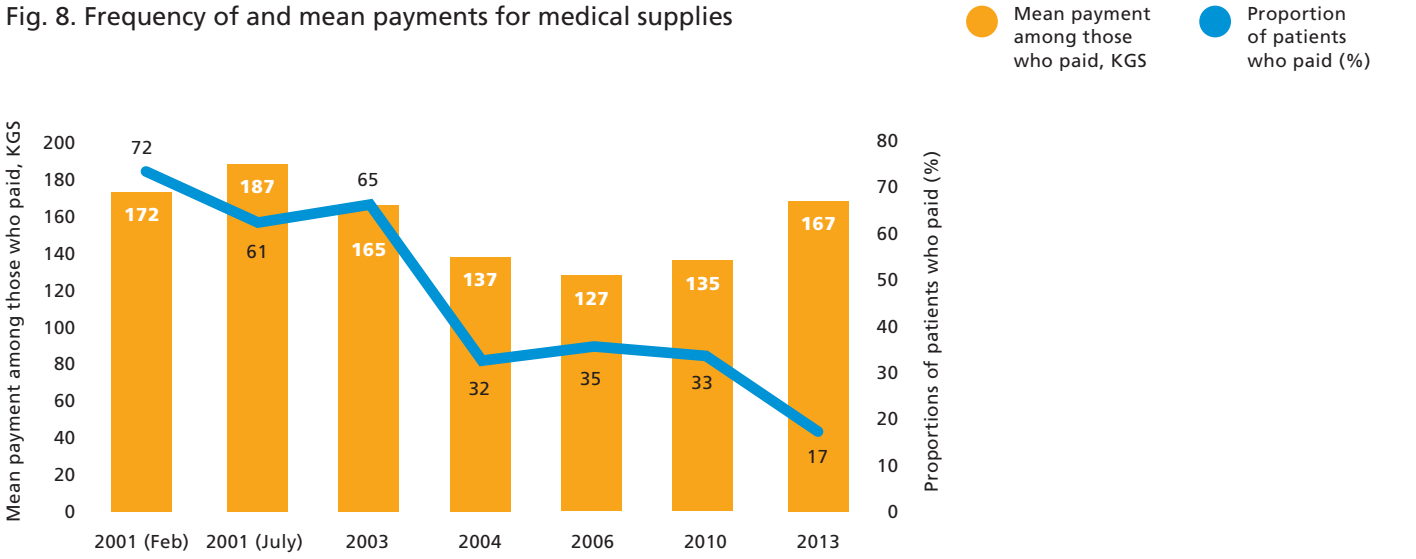
Fig. 7. Frequency of and mean payments for drugs by medical condition, 2013



3.3 Patient payments for medical supplies

The pattern of informal payments for medical supplies is similar to that for medicines. Between 2001 and 2006, significant decreases were observed in both the frequency and the amount paid. The decrease in frequency of payment has continued to the present, with only 17% of patients being asked to purchase supplies for their care. This is a significant improvement from the start of the reforms, when 72% of patients were required to make such purchases. The level of payment has also decreased substantially, except in the period between 2010 and 2013 (Fig. 8).

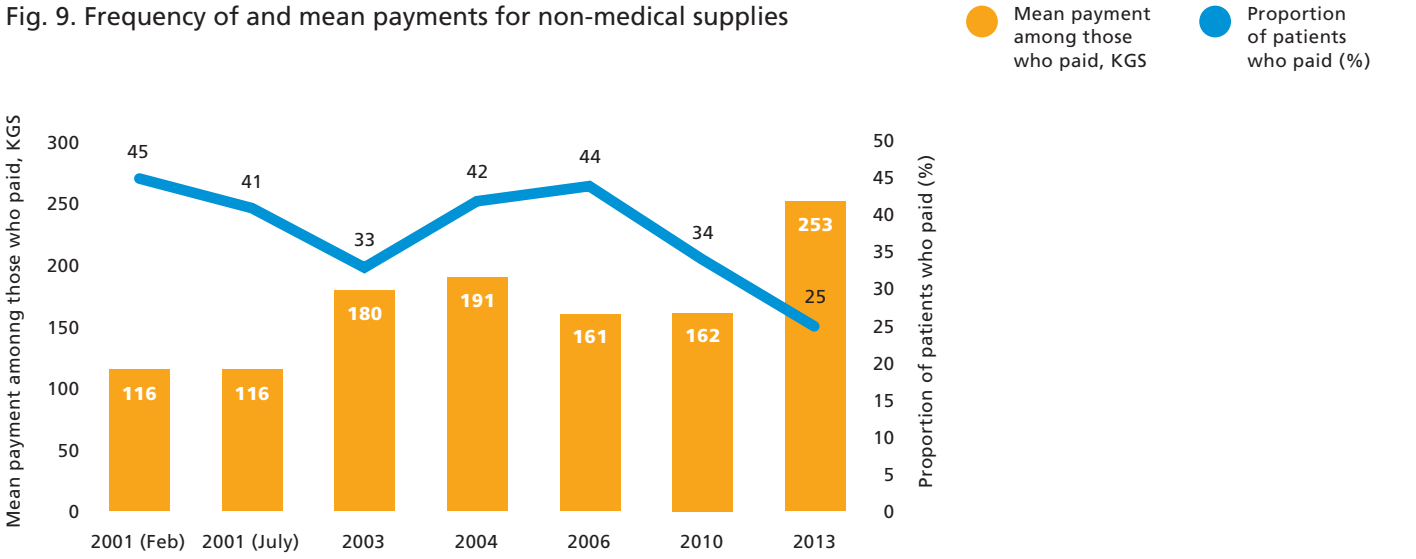
Fig. 8. Frequency of and mean payments for medical supplies



3.4 Patient payments for non-medical supplies

There has been meaningful progress in reducing patient payments for non-medical supplies, which include linen, light bulbs, notebooks and soap, some of which patients purchase for their own use and some of which are required by hospitals. The frequency of such payments also decreased substantially during the survey period, from 45% in 2001 to 25% in 2013, although the mean amount more than doubled, from 116 KGS to 253 KGS (64% in real terms; Fig. 9). The significant reduction indicates that health facilities improved provision of non-medical supplies to patients, particularly during 2006–2013, which might be an effect of health financing reforms during the early 2000s (Kutzin et al., 2010). As the share of patient payments for medical supplies is quite small, it does not greatly affect the overall trend.

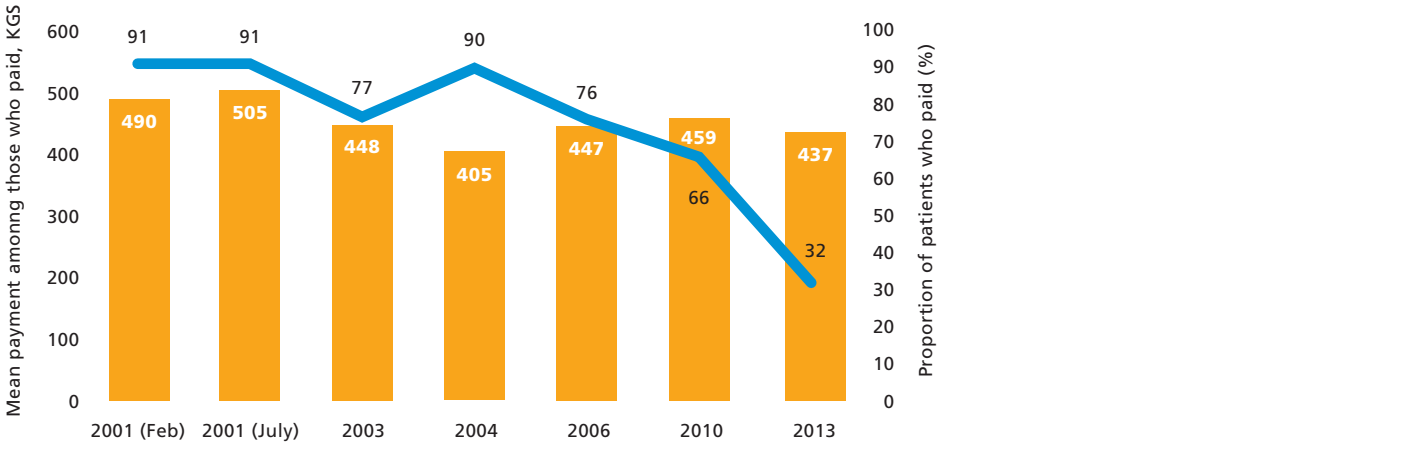
Fig. 9. Frequency of and mean payments for non-medical supplies



3.5 Patient payments for food

The proportion of patients who made payments for food decreased drastically over the 12 years of the surveys, although the amount paid per paying patient remained steady in real terms. In 2001, 91% of patients purchased food while hospitalized and paid on average 490 KGS; in 2013, only 32% of hospitalized patients purchased their own food and paid on average 437 KGS (at 2001 prices). This reflects attempts by the MHIF to ensure that food standards are adhered to and better food is available at health facilities.

Fig. 10. Frequency of and mean payments for food



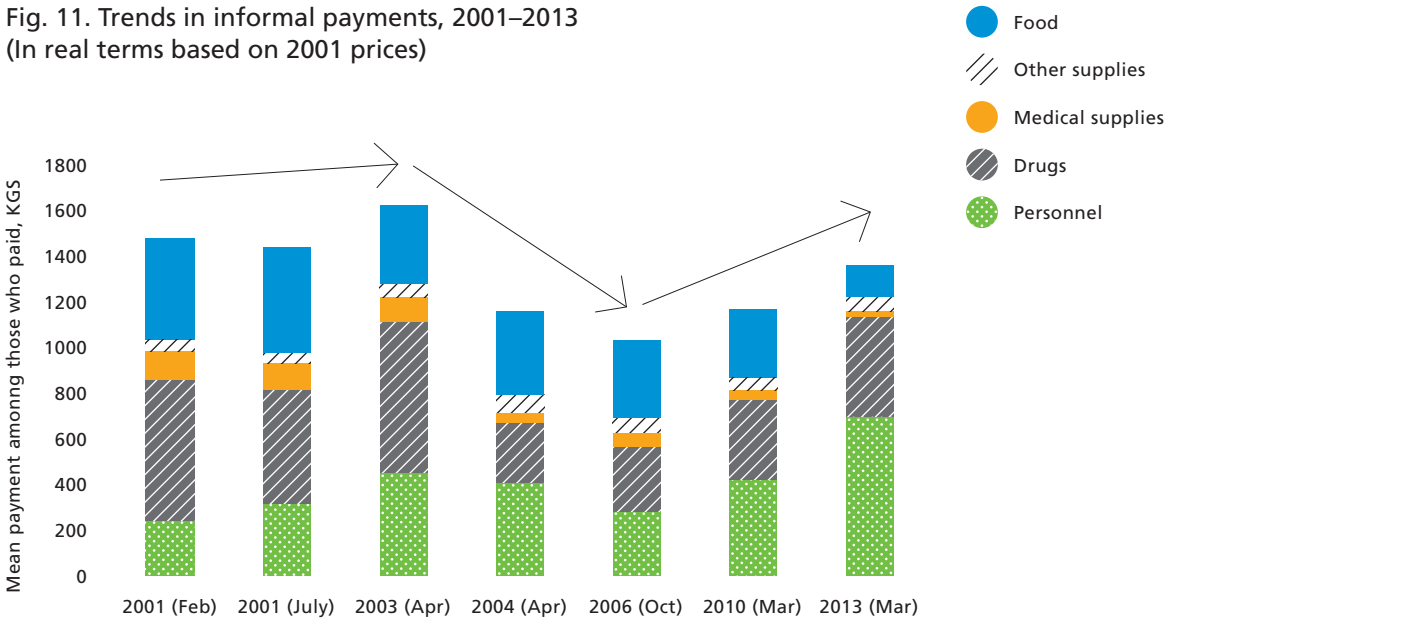
3.6 Total informal payments

Overall, the trends in total informal payments show an interesting pattern over the 12-year period, with three distinct phases (Fig. 11). **In the early phase of rolling out the single-payer system between 2001 and 2003, informal payments stagnated and even slightly increased.** The increase was most marked for medicines, indicating a continued shortage of funds absorbed by maintenance and staff. **At the same time, oblast-specific data for the same period show that informal payments decreased in the oblasts of Issyk-kul, Chui, Naryn and Talas,** in which the single payer reform was introduced, indicating an impact of the new policies (Kutzin, 2004; Jakab and Kutzin, 2009).

Once the single-payer system was extended nationwide between 2003 and 2006, informal payments decreased markedly, particularly for medicines and medical supplies. In 2004, for the first time, informal payments for medicines made up a smaller share of informal payments than those to medical personnel, and this proportion has been maintained. This finding is plausible, as the new financial contractual arrangements triggered reconfiguration of service delivery, with significant savings on fixed costs, which in turn allowed use of the resources for medicines and supplies (Jakab and Kutzin, 2009).

In the most recent period, 2010–2013, s**ignificant increases in informal payments were seen for both medical personnel and medicines.** Those to medical personnel increased the fastest in this period, and the 2011 salary increase does not appear to have halted or slowed the trend. Informal payments for medicines also increased, which, as shown earlier, appears to be a price effect at hospital level, as the frequency of demands on patients to purchase their medicines appears to be stable over the years.

Fig. 11. Trends in informal payments, 2001–2013
(In real terms based on 2001 prices)



Mean informal payment multiplied by the number of hospitalizations gives the total volume of informal payments, which can be compared with formal resources in the system (Table 6). We divided the 12 years between 2001 and 2013 into two periods and compared the rates of growth of the volume of informal payments in the first 5 years with those in the next 7 years. **The volume of informal payments decreased in the first period and increased substantially in the second, offsetting earlier gains. In real terms, the total volume of informal payments (without food) decreased by 34% in real terms between 2001 and 2006 but increased by 106% between 2006 and 2013, resulting in an overall growth rate of 37% for the entire 12 years** (Table 6). The rapid growth in the total volume of informal payments after 2006 was driven by two factors: an increase in hospitalizations during this period of about 2% per year and an increase in mean informal payments, particularly to medical personnel. The volume of informal payment to medical personnel more than doubled during the entire period, although the growth was slower in the early reform years. In contrast, the volume of informal payments for medicines and supplies decreased in real terms throughout the period, despite growth in the number of hospitalizations. This suggests that the gains in the early reform period were substantial and fairly stable. Informal payments to medical personnel dominated overall trends as the largest contributor to the total.

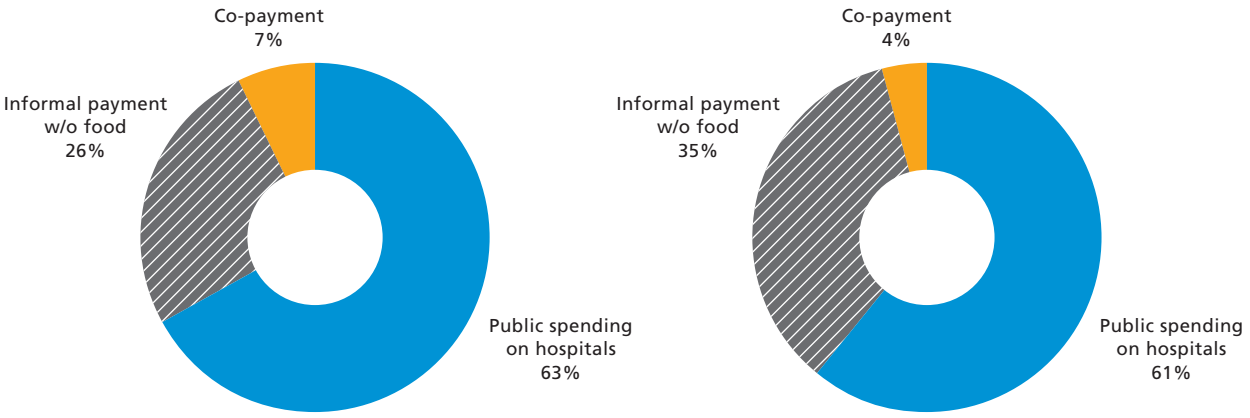
Table 6. Total volume of informal payments in nominal and in real terms (KGS)

	Point estimates for selected years			Period growth rate		
	2001	2006	2013	2001–2006 (5 years)	2006–2013 (7 years)	2001–2013 (12 years)
Total number of hospitalizations	715 894	726 944	826 390	1.54%	13.68%	15%
Nominal terms						
Mean informal payments among all respondents	1 479	1 330	4 372	–10%	229%	196%
Total volume of informal payment (with food)	1 059 141 000	966 990 094	3 123 192 304	–9%	223%	195%
Total volume of informal payment (without food)	741 677 344	643 804 269	2 806 257 640	–13%	336%	278%
Personnel	172 354 898	264 454 958	1 592 552 477	53%	502%	824%
Medicines	442 851 474	2691 55 378	1 003 783 398	–39%	273%	127%
Medical and non-medical supplies	126 470 972	110 193 933	209 921 765	–13%	91%	66%
Real terms						
Mean informal payments among all respondents	1479	1018	1578	–31%	55%	7%
Total volume of informal payment (with food)	1 059 141 000	740 251 004	1 127 371 084	–30%	52%	6%
Total volume of informal payment (without food)	741 677 344	492 845 542	1 012 967 954	–34%	106%	37%
Personnel	172 354 898	202 445 764	574 859 771	17%	184%	234%
Medicines	442 851 474	206 044 033	362 333 237	–53%	76%	–18%
Medical and non-medical supplies	126 470 972	84 355 745	75 774 946	–33%	–10%	–40%

Informal payments (without food) increased to 35% of all spending in hospitals, including public expenditure and co-payments, from 26% in 2006 (Fig. 12). The share of informal payments grew partly because its growth rate was faster than that of public expenditure for hospitals and partly because co-payment collections have decreased. Co-payment exemption categories were extended and co-payments were not adjusted to inflation. To the extent that co-payments reflect a funding gap in the SGBP, these results suggest that the gap increased between 2006 and 2013.

Fig. 12. Proportion of informal payment in total hospital spending, 2006 and 2013

Note: Data on co-payment and public spending are from the national health accounts for 2015.



3.7 Total financial burden of high-priority beneficiaries and by socio-economic status

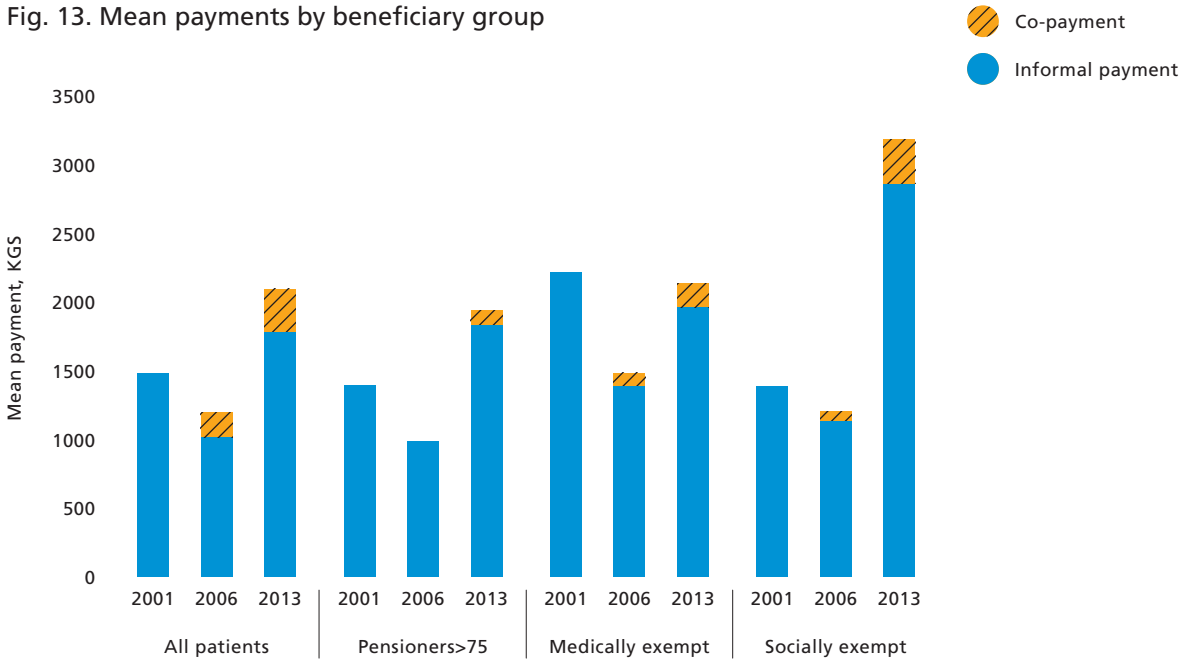
Of particular interest is how the financial burden changed for priority beneficiary groups of the SGBP. These groups are either exempt or partially exempt from co-payment. Categorical targeting is used to define exemptions (e.g. children under 5, deliveries) and was introduced to protect people with high expected health care costs and those who are socially vulnerable. The definition of "high-priority beneficiaries" changed several times during the survey period, with the largest extension in 2006 and few changes subsequently.

The number of high-priority beneficiaries who did not make co-payments or who paid a reduced rate increased from 59% of hospitalizations in 2006 to 68% in 2013. Thus, only 32% of hospitalizations were subject to formal payment in 2013.

Fig. 13 show trends in informal payments and formal co-payments together by beneficiary group. **Between 2001 and 2006, the total financial burden of hospitalization, comprising both informal payments and formal co-payments, decreased for all beneficiaries.** The decrease among beneficiaries

was larger than that for the general population, indicating reasonable success of targeting by category. The largest net gain was estimated to be that of children under 5 years, for whom there was a net reduction in total informal and co-payments of 736 KGS, or 52% in real terms. **In the period 2006–2013, however, the financial burden of all beneficiaries increased and, for some, exceeded the financial burden they had at the start of the reform, including pensions, even for those exempt from social payments.**

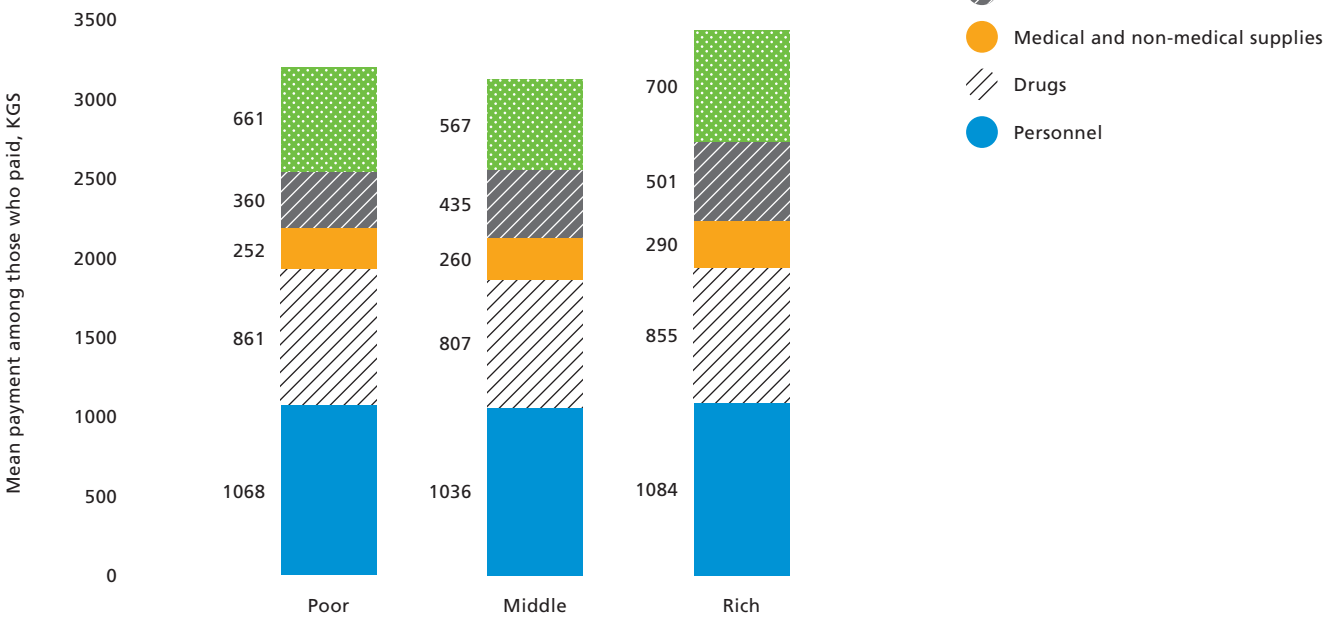
Fig. 13. Mean payments by beneficiary group



Since 2004, questions designed to determine respondents' socio-economic status have been included in the questionnaire, which allows analysis of informal payments by socio-economic category. The questions included asset and consumption measures and ranking of households from poorest to richest. The 20% with the least assets and lowest consumption were categorized as the poorest and the 20% with the most assets and consumption were categorized as the richest, leaving 60% of the sample in the middle. While this method is not sophisticated, it allowed us to test the hypothesis that informal payments act as an inherent protective mechanism, placing a smaller burden on the poor.

The mean payments were similar for the three groups in 2013 (Fig. 14) in all categories similar to our findings in previous years, indicating that informal payments do not protect the poor. As poor and non-poor people pay the same amount, these payments account for a much larger share of the household resources of the poor and are thus regressive.

Fig. 14. Mean payments by socio-economic group, 2013



4. Discussion

In the early reform period, 2001–2006, Kyrgyzstan demonstrated impressive results in reducing informal payments in its health system, particularly for medicines, medical supplies and food. To our knowledge, Kyrgyzstan is the only country of the former USSR to obtain such results. Although informal payments to personnel did not decrease during this period, the growth rate was modest. Furthermore, the reduction in informal payments applied in particular to high-priority population groups. Overall, these trends contributed to a reduced financial burden, better access and a more equitable health system.

These findings are significant from a regional perspective because they demonstrate that policies matter and the right mix of policies can contribute to the reducing informal payments. In the case of Kyrgyzstan, "root cause analysis" showed that informal payments, particularly for medicines and supplies, were a symptom of an underfunded, overcommitted system with sizeable inefficiency in its service delivery arrangements. The aim of the reforms was to reduce the inefficiency by strengthening primary health care, restructuring the hospital network and channelling the savings into fixed costs to medicines and supplies. The health financing reforms facilitated this transformation of service delivery by introducing a single-payer system, with progressive centralization of pooled funding and introduction of population and output-based provider payment mechanisms (Kutzin, 2004). The former created an enabling environment for service delivery transformation, while the latter provided incentives to do so.

Our results also show that Kyrgyzstan was unable to sustain these gains in the long run, as informal payments began to increase after 2006, offsetting previous gains. This reversal was driven to a great extent by informal payments to medical personnel, which accelerated, and to a lesser extent by informal payments for medicines and supplies. As a result of these trends and the growth in hospitalizations, the volume of informal payments grew substantially and now accounts for 34% of total health expenditure in hospitals. The increase in informal payments was seen for all beneficiary groups, indicating ineffective targeting of public spending.

A number of factors contributed to the reversal of the positive trends in informal payments in Kyrgyzstan after 2006. Below, we examine eight of these: the public finance context, the SGBP, the salaries and working conditions of health workers, purchasing arrangements, public finance rigidity, service delivery configuration, medicine prices and procurement processes, and provider performance monitoring. We discuss the extent to which these factors explain the pattern in informal payments.

Public finance context

The public finance context has been relatively favourable for the health sector since 2006 and thus does not explain why informal payments rose at the pace observed. Informal payments are often associated with inadequate public funding, and the rapid rise in informal payments throughout the region in the early 1990s is often explained as a direct result of under-funding. Nevertheless, since 2006, Kyrgyzstan has significantly increased public expenditure on health, with an annual growth rate of above 10% in real terms since 2006 as part of agreements in the sector-wide approach (Akkazieva et al., 2016). As a result, Kyrgyzstan significantly increased the share of the health sector in the overall

Government budget to 13%, in line with allocations in many countries in the WHO European Region, where health is considered a priority. The increased allocations enabled an increase in health worker salaries (see below) and ensured key inputs for hospitalization.

The State-guaranteed Benefit Package

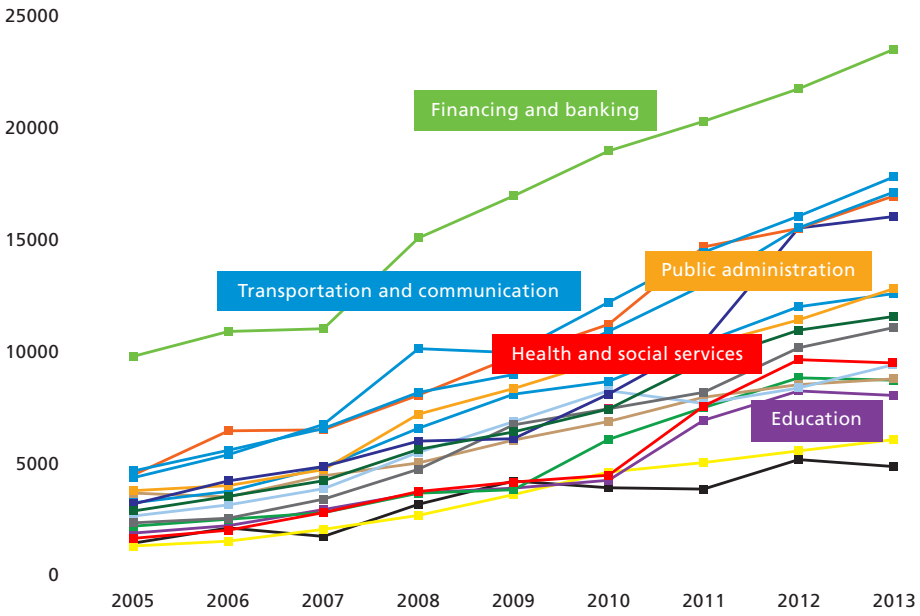
Extension of the SGBP without commensurate public funding and erosion of co-payment levels probably contributed to the increase in informal payments. The SGBP was designed to ensure clarity in the entitlements and obligations of citizens vis-à-vis the health system. The aim of the co-payment policy was to reduce uncertainty about the payment required for hospitalization, and that of the exemption scheme was to safeguard access and provide financial protection for vulnerable groups. Although a funding gap was present from the beginning, as indicated by informal payments, the trends were going in the right direction before 2006, and it appeared possible to close the funding gap. In 2006, the Government significantly extended the SGBP by allowing exemptions from co-payment for several population groups, without allocating sufficient additional resources to compensate facilities for the loss of co-payment revenue (Manjieva et al., 2007). In addition, co-payment levels were not adjusted for inflation over time. As a result, facilities lost co-payment revenues, which had been used to purchase medicines and supplies and to augment salaries. The gap was filled by informal payments. These trends not only increase the financial burden of hospitalized patients but result in loss of confidence in the SGBP and in the health system, which promises more than it can deliver.

Salaries and working conditions of health workers

Below-average salary levels in the health sector, coupled with unattractive working conditions, are probable drivers of the trends in informal payments to medical personnel. Until 2011, health sector workers were among the lowest paid workers in the country. Between 1999 and 2004, their salaries were half those in other sectors monitored by the National Statistical Committee, including public administration, public utilities and the private sector (hotels, restaurants and banking). In 2005, annual salaries in the health sector began to increase due to the larger fiscal space created by the sector-wide approach. Despite these increases, health sector salaries were still only 64% of the mean salary level in 2007 (Fig. 15). Furthermore, the working conditions, with a heavy workload, multiple shifts, an unsupportive, hierarchical management, limited training and often poor physical conditions, had led to resentment and hopelessness among health care workers (Murzalieva et al., 2008). The 2011 increase provided the first substantial boost to the earnings of health workers, whose average salary increased more than twice between 2010 and 2013, with greater increases in rural than in urban areas (Health Policy Analysis Center, 2014). This increase moved the average salary in the health sector up four positions, so that it ranked ninth in 2013 as compared with 13th in 2010, overtaking the education sector. In 2013, health sector salaries represented 82% of the mean overall salary level in Kyrgyzstan. Nevertheless, this increase was not sufficient to turn around the trends in informal payments to medical personnel. Further qualitative research would be helpful to gain deeper understanding of the impact of the 2011 salary increase on informal payments specifically to personnel.

Fig. 15. Monthly average salary by sector, 2005–2013

Source: National Statistical Committee, 2015



Purchasing arrangements

Purchasing arrangements have not been modernized to facilitate further gains in efficient use of resources and have probably contributed indirectly to the growth in informal payments. The sum of capitation for primary care providers and case-based payments for hospitals encourage excessive use of hospitals. Thus, hospital use greatly increased after 2006, even for ambulatory conditions such as hypertension management, many childhood illnesses and pregnancy. The increase in the volume of hospitalization was further fuelled by informal payments to medical personnel. With low treatment intensity, patients (particularly those with chronic conditions) have low marginal costs, and each hospitalized patient is a source of informal payment. Further, as the number of hospitalizations increase, resources (medicines and supplies) available per patient decrease. As a result, completing the care episode requires further resources from the patient. Thus, controlling the rate of hospitalizations, especially for ambulatory care sensitive conditions, is important for encouraging efficient use of public resources and reducing patients' financial burden. This would lead to both greater allocation efficiency (treatment at the appropriate level of care) and greater technical efficiency (ensuring resources to treat admitted patients properly). Modernizing purchasing arrangements would go a long way to improving the efficiency of the health system.

Public finance rigidity

Public finance rules remain rigid, limiting the ability of health care providers to respond adequately to financial incentives by applying their managerial decision rights. Although budget formation and provider payments are based on capitation and a per-case basis, actual withdrawals from and reporting to the Treasury are based on a line-item approach. While translation from

one to the other is possible in principle, it requires more training in finance and accounting than current health facility managers have. As a result, input-based logic prevails over population and output-based thinking in the use of public funds, leading to inefficient intra-facility resource allocation decisions and underfunding of medicines and supplies, creating a gap to be filled by informal payments. Thus, extending the autonomy of facilities and ensuring that financial incentives can indeed exert an effect on facility management are critical to improving efficiency and reducing informal payments.

Transformation of service delivery

Configuration of service delivery arrangements, in particular in Bishkek and Osh cities, could be improved with resulting in gains in efficiency and opportunities for reducing informal payments. The health facility network at oblast and rayon level were more completely restructured than that in the two largest cities of the country, and it is perhaps not a coincidence that we observed the highest levels of informal payments in the two areas. With excess capacity, a disproportionate share of resources is spent on fixed costs, including human resources, and an insufficient amount remains for rewarding health workers and for medicines and supplies. Another important component is that many health care facilities are obsolete, providing little comfort for patients but with high maintenance costs, including utilities. Systematic infrastructure renewal across the country towards energy-efficient, modern facilities would reduce maintenance costs and make resources available for medicines and supplies.

Medicine prices and procurement processes

High and increasing prices of medicines, inefficient medicine procurement and unnecessary prescriptions require hospitals to seek patient resources to ensure the availability of medicines and supplies for their care. These factors have been extensively documented and discussed elsewhere from the perspective of inefficient use of public funds. The implication, however, is not just waste but also an increased financial burden for patients and a poorly transparent system. Addressing these issues is high on the policy agenda and should result in gains in terms of the availability of medicines and supplies.

Provider performance monitoring

Monitoring and feedback on provider performance have not been introduced systematically. Health facilities have no performance orientation and no systematic performance monitoring or discussion of results. A complex instrument for monitoring diverse dimensions of performance could be developed, with the goal of regular feedback to providers to help them identify and solve problems. The dimensions could also include periodic interviews with patients. The instrument could be developed jointly by the MHIF and provider organizations and used at oblast level.

5. Policy recommendations

The persistence of informal payments remains a policy problem because it contributes to the financial burden of patients in an unpredictable way, makes it impossible to protect vulnerable groups and undermines the credibility of the SGBP. As discussed above, the reasons for increased informal payments in the health sector are multiple, inter-related and complex. As a result, there is no magic bullet for further reducing informal payments in the Kyrgyz health system. A comprehensive, multi-pronged approach is likely to succeed if public funding is maintained at current levels. The early part of the reform period analysed, 2001–2006, showed that informal payments can indeed be reduced with well-designed, consistently implemented policies. The policy recommendations based on our analysis are listed below.

1. **Maintain public financing** at its current level to ensure a reasonable, stable, predictable funding envelope for the sector representing at least 13% of the Government budget.

2. **Revise the SGBP significantly,** including, for example, (i) adjustment of co-payment levels to the inflation of the past few years and increase the level of co-payments; (ii) differentiation of co-payments in Republican and Bishkek City facilities and in other facilities to reflect the differences in informal payments; and (iii) introduction of a small co-payment for exempt groups, which would not represent a major financial burden for individuals but would provide a large revenue for hospitals because of the large volume of exempt cases.

3. **Improve health worker motivation.** Determine why the 2011 salary increase did not slow the growth in informal payments to health workers in order to understand whether further salary increases would contribute to reducing informal payments. Further, review complaints of health workers about non-material aspects of their work (Murzalieva et al., 2008), and improve working conditions.

4. **Modernize purchasing arrangements for both primary and hospital care.** For primary health care, it has been agreed that moving from pure capitation to mixed payments with capitation and a fee-for-service or pay-for-performance component would greatly improve detection and management of chronic conditions in ambulatory care. For hospital care, updating and refining the case-based payment mechanism has been agreed. Speeding up implementation of these agreements would help improve efficiency and potentially reduce informal payments.

5. **Extend provider autonomy, and resolve public finance rigidity** to enable the provider payment mechanisms to exert an effect. While various options are under discussion, including a new budget codex, it is essential to ensure that the line-item approach is no longer applied in the health sector at any level. At the same time, to ensure better accountability, expanded reporting on programmes and output categories would be important.

6. **Renew the health care infrastructure in Bishkek and Osh cities** and perhaps beyond in order to make further efficiency gains. Merging many old and obsolete buildings into fewer, modern, energy-efficient ones with shared diagnostics, laboratories and patient support services would consolidate the physical infrastructure and increase patient comfort. The efficiency

gains of this service delivery reconfiguration would also reduce informal payments in the two largest cities as in the early phase of the reforms.

7. **Improve the efficiency of the public procurement process of medicines, and regulate medicine prices.** Better price regulation and negotiation on the outpatient drug market will ensure better financial access for inpatients who are asked to purchase their medicines.

8. **Introduce monitoring of diverse dimensions of provider performance,** including the level of informal payments, at least for medicines and supplies.

6. Conclusion

In conclusion, Kyrgyzstan made impressive progress in reducing informal payments in the health system between 2001 and 2006, particularly for medicines, medical supplies and food. These results, however, were eroded in the long run, and informal payments began to rise, offsetting previous gains. The persistence of informal payments remains a policy problem because they continue to impose an unpredictable financial burden on patients and undermine the credibility of the SGBP. The reasons include the over-extended design of the SGBP, low salaries and poor working conditions of health workers, outdated purchasing mechanisms that fuel hospitalizations, public finance rigidity, remaining inefficiency in service delivery configuration, inefficient public procurement of medicines and supplies and lack of monitoring of provider performance. There is no magic bullet for further reducing informal payments in the Kyrgyz health system. A comprehensive, multi-pronged approach that addresses the list of causes above will succeed if public funding is maintained at current levels. These proposals require further discussion and consensus-building.

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Kyrgyzstan demonstrated impressive results in reducing informal payments in its health system between 2001 and 2006, particularly for medicines, medical supplies and food. This was achieved by introducing reforms to reduce inefficiencies in the health system, by strengthening primary health care, restructuring the hospital network and channelling the savings to medicines and supplies. The health financing reforms facilitated this transformation of service delivery by introducing a single-payer system, with progressive centralization of funds, pooling and introduction of population and output-based provider payment mechanisms. The findings demonstrate that policies matter and that the right mix of policies can contribute to reducing informal payments. Our results also show, however, that Kyrgyzstan could not sustain these gains in the longer run, as informal payments began to increase again after 2006, offsetting previous gains. This reversal was driven to a great extent by informal payments to medical personnel, despite a sizeable salary increase introduced in 2011, and to a lesser extent by informal payments for medicines and supplies. A number of factors contributed to the reversal of the positive trends in informal payments after 2006, including the over-extended State-guaranteed benefit package, the low salaries and poor working conditions of health workers, outdated purchasing mechanisms that fuel hospitalizations, rigidity in public finance, remaining inefficiency in service delivery, inefficient public procurement of medicines and supplies and the absence of provider performance monitoring. The persistence of informal payments remains a problem because they continue to impose an unpredictable financial burden on patients and undermine the credibility of the State-guaranteed benefit package. There is no magic bullet for further reducing informal payments in the Kyrgyz health system. A comprehensive, multi-pronged approach that addresses the causes simultaneously could succeed if public funding is maintained at current levels.

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