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Health, health seeking behaviour and out of pocket expenditures in Kyrgyzstan 2004

Kyrgyz Household Health Finance Survey
Final Report

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1. Background

This report presents the findings of a household survey conducted in Kyrgyzstan in March 2004 on behalf of the Ministry of Health. The survey was conducted with financial assistance from DFID and was executed by the Kyrgyz National Statistical Committee (NSC). The survey is a repeat of the 2001 Household Survey with marginal modifications in the questionnaire, and where possible comparative analyses over time are presented.

The survey took the form of an additional module in the Household Budget Survey (HBS) carried out by the NSC. The survey instrument was composed of five sections covering:

(i) general demographic information about the household and its members;

(ii) self-reported health status of each household member and whether they were covered by the Mandatory Health Insurance Fund (MHIF);

(iii) utilisation of health care services in the last 30 days and expenditures associated with such health care;

(iv) hospitalisation in the last year;

(v) knowledge and attitudes of the household head regarding recent reforms in the health sector.

By including the health financing module within the regular HBS, it was possible to link the health and health service utilisation data to detailed information on households' income and expenditure over the preceding year, allowing the calculation of the burden of health care expenditures and the estimation of the extent of catastrophic health care payments.

The questionnaire was administered to 3,000 households nationwide producing, a sample of 18,690 individuals. The HBS sample design provides nationally representative data and weights are provided to ensure the sample is representative at the oblast level. The majority of the analysis in this report is on weighted data. However unweighted data

are used for a minority of tables where events are rare and where it may be misleading to give a high weight to any one case.

The report follows the structure of the survey questionnaire and results are presented for the four main sections:

- General health status
- Utilisation of health care services in the last 30 days
- Hospitalisation in the last year
- Knowledge and Attitudes regarding the health reforms.

A separate detailed analysis of the extent of catastrophic health care payments is presented in an accompanying report. The main tables for the report are presented in Appendix I.

2. General health status

Health is a complex and multidimensional concept. The KHHFS collects information on two different indicators of self-reported health status: chronic ill-health, distinguishing between the experience of a limiting and non-limiting chronic illness; and acute ill-health referring to an illness or injury in the last 30 days, again distinguishing between limiting and non-limiting conditions (see Box 1).

Box 1 Questions on self–reported health within the KHHFS

- Chronic ill-health

'Do you suffer from a chronic illness or disability that has lasted more than 3 months (including severe depression)?'

If yes,

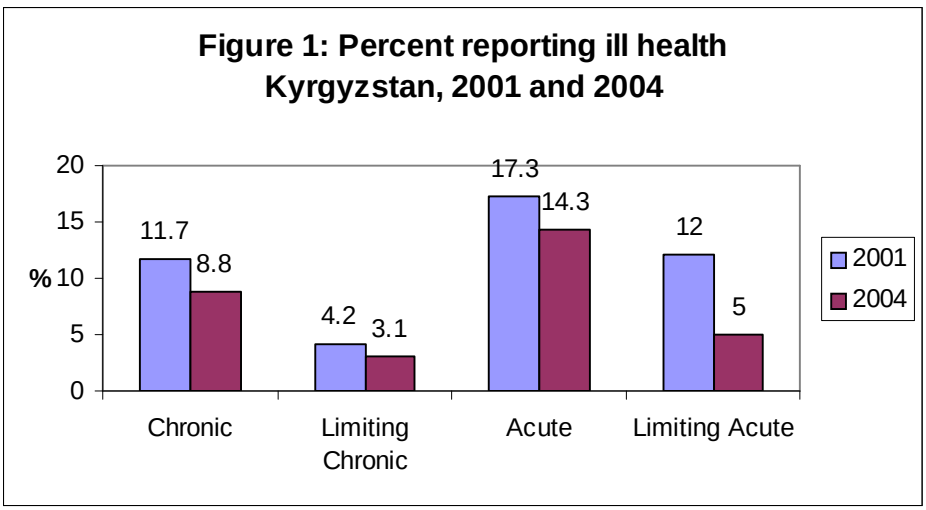
'How many days during the last month have you been unable to carry out usual activities because of this illness or disability?'

- Acute ill-health

'During the last 30 days have you had any acute (sudden) illness or injury?

If yes,

'How many days during the last month have you been unable to carry out usual activities because of this acute (sudden) illness or injury?'



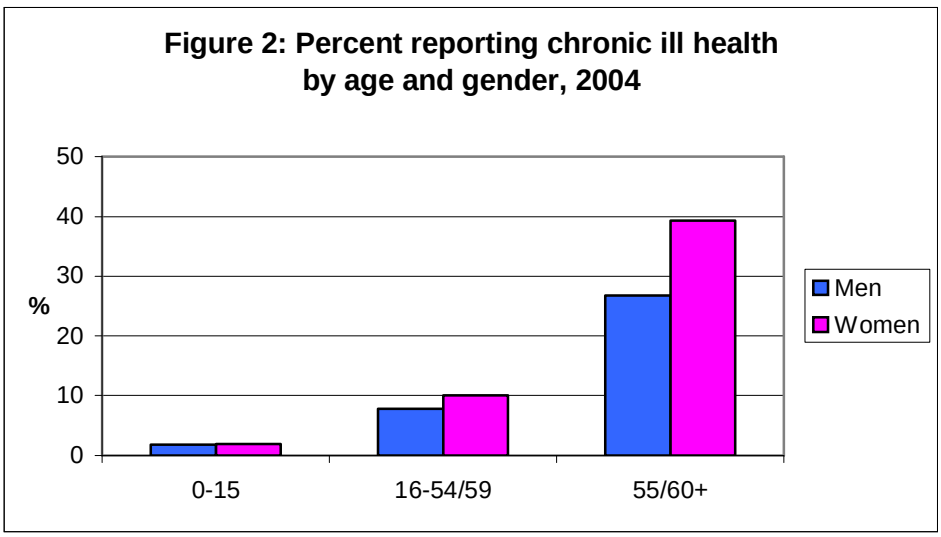
Morbidity, as measured by self reported health status appears to be somewhat better in March 2004 than in the same calendar month in 2001. In March 2004, 9 percent of all Kyrgyz men and women reported suffering from a chronic illness or disability that had lasted for more than 3 months, and 14 percent reported suffering from an acute illness or injury in the last 30 days. This compares with 12 percent and 17 percent respectively in 2001 (Figure 1). When the 'severity' of ill health is taken into account (in terms of whether their chronic or acute ill health limited their daily activities), in 2004 three percent of people reported a limiting chronic condition and five percent a limiting acute condition, compared with four and 12 percent in 2001. The 'improvement' in health is most marked when looking at limiting acute health. However this measure is very sensitive to seasonal changes and it may be that spring 2004 saw fewer colds and flu than in 2001.

2.1 Chronic ill health

2.1.1 Prevalence of chronic ill health

The prevalence of chronic ill health varies by age and gender, with older people reporting higher levels of ill health than younger people, and women reporting more ill health than men of the same age. For example, 8 percent of men of working age (16-59) stated that they suffered from a chronic illness compared to 10 percent of women (16-55) (Figure 2 and Table A1).

Figure 2: Percent reporting chronic ill health by age and gender, 2004

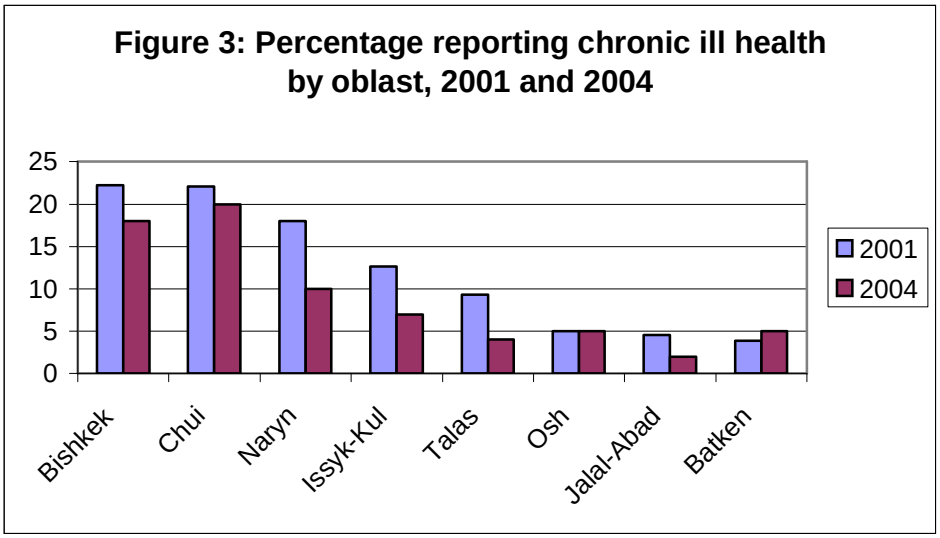


The likelihood of reporting a chronic health problem is positively associated with economic status of the respondent's household i.e. self-reported morbidity is higher amongst the better-off [2]. 17 percent of those in the top quintile report a chronic condition compared with just 5 percent in the bottom (Table A2). This inverse relationship between health and economic status was also found in 2001 and has been observed in several other countries in the region. It may reflect differences in perceptions of health across socio-economic groups, with poorer people defining ill health more narrowly than people who are better-off. Ill health may be equated with having to do some thing about it and as the less well-off are less able to take time off work or meet the costs of health care they are less willing to define themselves as ill. Detailed qualitative work is required to disentangle this phenomenon further.

It is interesting to note that the health gradient by socio-economic status has narrowed over the last 3 years. In 2001, the ratio between the richest quintile and poorest quintile was 4.1 (i.e. 4.1 times more people in the richest quintile reported chronic ill health than those in the poorest). By 2004 the ratio had narrowed to 3.7 (Table A2). This may be interpreted as reflecting improved relative access to health care amongst the poorest members of Kyrgyz society as a result of the recent health financing reforms.

In 2004, there remain considerable regional variations in the prevalence of chronic ill health, ranging from 20 percent in Chui to just 2 percent in Jalal-Abad (Figure 3), reflecting regional differences in age and socio-economic composition, with those oblasts with a higher proportion of the population aged under 16 also enjoying the lowest prevalence of chronic ill health. Interestingly, the prevalence of chronic ill health between 2001 and 2004 improved most in Naryn and least in Osh. In Batken, there has actually been an increased in self-reported morbidity.

[2] The measure of economic well-being used here is per capita household expenditure (including the imputed value of the consumption of home production) as measured in the Household Budget Survey during the previous year (2003).



Note: chi-square for differences by region significant at ($p<0.001$)

2.1.2 Types of chronic conditions

The types of chronic conditions reported vary by age and gender (Table A3). Respiratory problems (lungs) are by far the most important chronic conditions amongst female children, accounting for over a third of all chronic conditions. Amongst boys, respiratory problems and problems of the nervous system are almost equally important, accounting for 20 percent and 21 percent respectively.

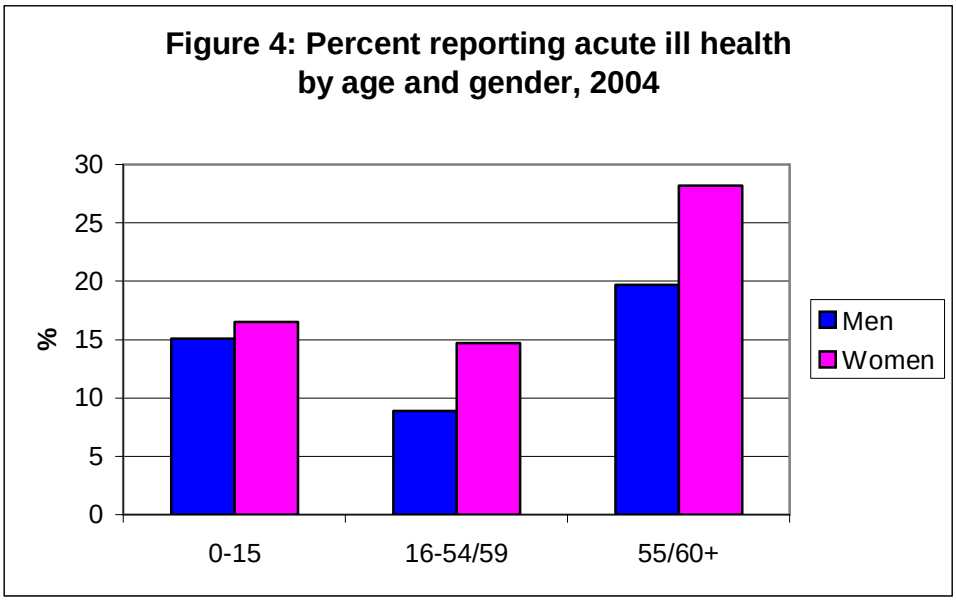
Amongst men of working age, the most common chronic conditions are digestive (18%), respiratory (15%), muscular-skeleton (10%) and circulatory (10%). Amongst women of this age digestive problems are most common (19%) followed by respiratory (15%), urino-genital (14%) and circulatory (11%). Amongst people of pension age the most common complaints are related to circulatory problems (22% for women and 23% for men), respiratory (12%; 18%) and muscular-skeleton (12% for women and 13% for men). This disease profile remains very similar to that found in 2001.

2.2 Acute ill health

2.1.2 Prevalence of acute ill health

As with chronic ill health, the incidence of acute illness varies with age and gender, with women in each age group being more likely to report an episode of ill health

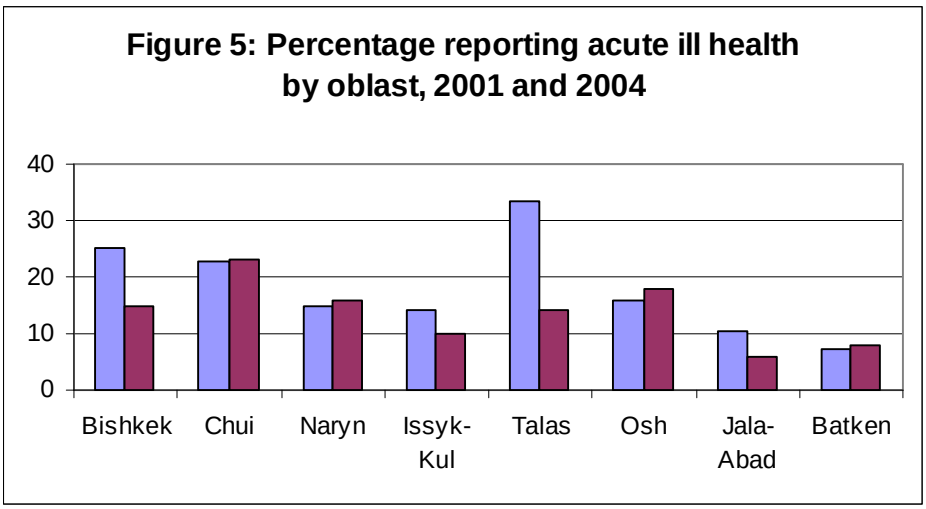
than men. For example, amongst those over pension age, 20 percent of men compared with 28 percent of women reported acute ill health in the 30 days prior to the survey (Figure 4). Within each age-gender group there has been a marked fall in the proportion reporting acute ill health in the previous 30 days between 2001 and 2004 (Table A1).



Note: chi-square for differences by gender significant at ($p<0.001$)

Once again, there is a positive association between ill health and economic status, with 13 percent of those in the poorest quintile reporting an acute episode compared to 18 percent amongst the richest quintile (Table A2). The gap between the health of the 'rich' and 'poor' has narrowed over time with the ratio between the top and bottom quintile falling from 1.9 in 2001 to 1.4 in 2004.

There remain significant differences in the prevalence of ill health by region (Figure 5). Interestingly, there has been a marked fall in the prevalence of acute ill health in Talas, with just 14 percent reporting an acute illness of injury in the last 30 days in March 2004 compared with 34 percent in March 2001. In 2004, Chui has the highest prevalence of acute ill health (23%) whilst the lowest prevalence is in Jalal-Abad (6%).



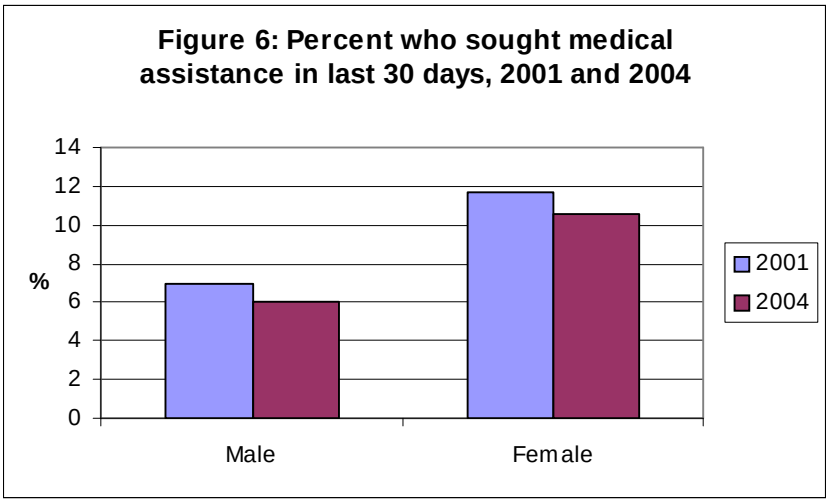
Note: chi-square for differences by region significant at ($p<0.001$)

2.2.2 Types of acute illness

As was the case in 2001, in March 2004 the most common cause of acute illness was having a cold or flu. The relative importance of such illnesses was greatest amongst children, accounting for four out of five acute episodes amongst both boys and girls, compared with just under half of all episodes amongst men of pension age (Table A4). Older people were more prone to headaches and other aliments.

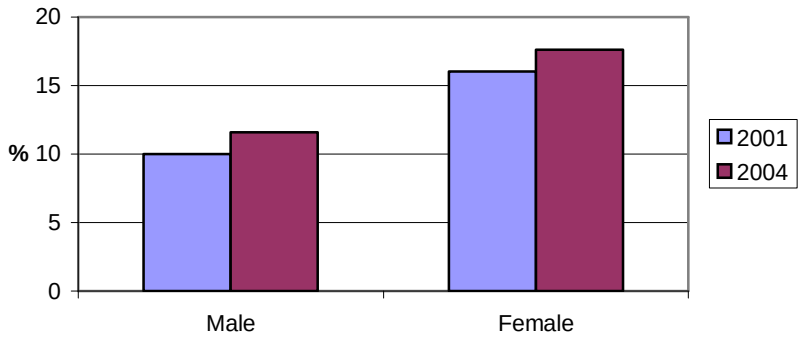
3. Utilisation of health care services

Overall 6 percent of Kyrgyz men and 11 percent of Kyrgyz women reported that they had sought medical assistance in the last 30 days in March 2004 (Figure 6). This represents a slight fall compared to the proportions in March 2001 (7% and 12% respectively) and is perhaps not surprising given the improvements in self-reported morbidity noted above. There was a fall in utilisation rates amongst all age and gender groups (Table B1)



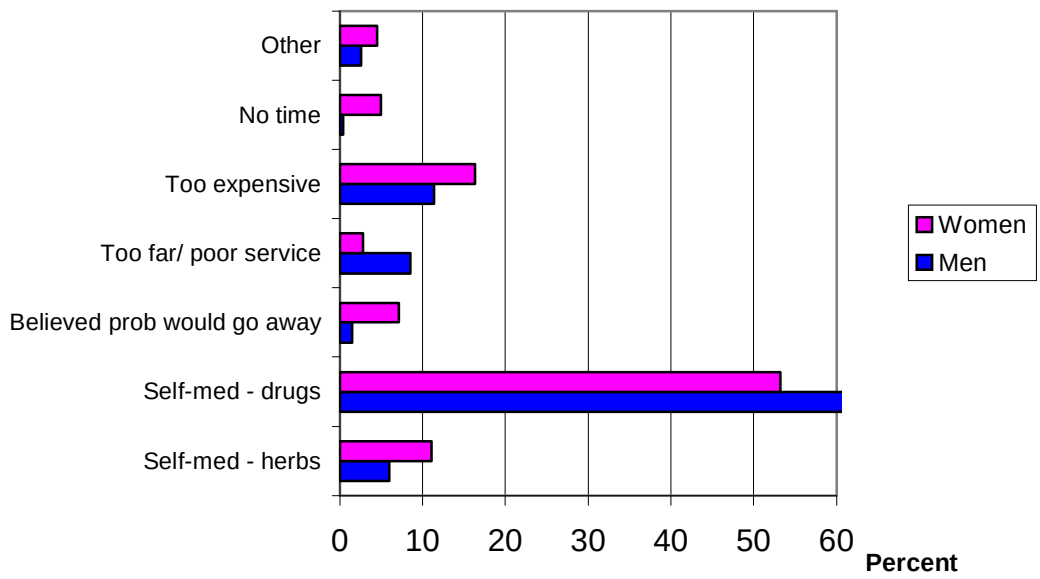
However, a further 12 percent of men and 18 percent of women reported that they had needed medical assistance but had not sought treatment (Figure 7). This is an increase on the proportions in 2001 (10% and 16% respectively). The proportion with a perceived 'unmet need' for medical care increased between 2001 and 2004 in all age and gender groups (Table B1).

Figure 7: Percent who needed medical assistance but did *not* consult in last 30 days, 2001 and 2004



The main reason given for not seeking health care in 2004 was that the person self-medicated using either pharmaceuticals (53% women and 70% men) or herbs (11%; 6%). 7 percent of women and 2 percent of men thought that the problem would go away. However 11 percent of men and 16 percent of women reported that they did not seek medical assistance as it was 'too expensive' (Figure 8). This compares with 14 percent of men and 15 percent of women in 2001. This suggests that there are still financial barriers to accessing health care in Kyrgyzstan.

Figure 8: Reasons why respondents did not seek health care



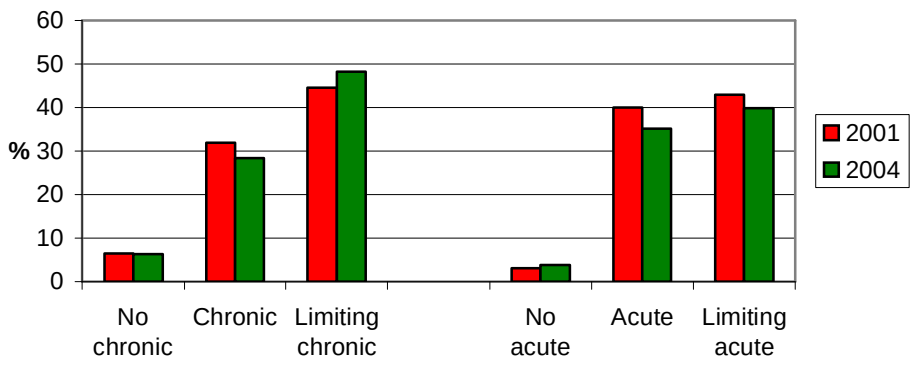
Patterns of health care utilisation, and associated expenditures, are further explored below. It is interesting, however, to note changes in health seeking behaviour over time. For reasons of comparability the analysis is confined to just those who report acute ill health in the period immediately prior to the survey. In 1994, half (50%) of respondents suffering from an illness or injury in the previous 4 weeks reported that they had sought medical help or advice. By 2001, this had fallen to 40 percent. In March 2004, just 35 percent of those with an acute health condition in the last 30 days had sought medical assistance – suggesting a decline in health seeking behaviour across time.

3.1 Patterns of health care utilisation

3.1.1 Consultation rates

Health seeking behaviour is strongly related to poor health. In 2004, just six percent of those with no chronic condition reported a health care consultation in the last 30 days, compared with 28 percent amongst those with a chronic condition, and 48 percent amongst those whose chronic illness or disability limited their activity. Consultation rates amongst those with acute ill health are 35 percent compared with just four percent of persons without acute ill health (Figure 9). Looking at changes in consultation rates between 2001 and 2004, after taking health status into account, confirms that consultation rates have fallen with the exception of those with a limiting chronic condition.

Figure 9: Percent seeking health care in last 30 days



Over half of all consultations in 2004 (60%) were related to physical illnesses, and just under one sixth to injuries (14%) (Table B4). Maternity cases account for 12 percent of visits by women aged 16-54. Consultations for mental health problems were relatively rare, accounting for just 2 percent of all visits.

In 2001, a quarter of all child consultations were for a vaccination – and in these cases parents provided the syringes for the vaccinations in 47 percent of cases. By 2004, vaccinations accounted for just 13 percent of child consultations (18% for boys and 8%). The good news is that the health services provided the syringes in three-quarters of cases – however the fall in the share of vaccinations in overall health visits amongst children is worrying in the absence of any overall rise in health care use and warrants further investigation.

Consultation rates vary by age and gender, with women being more likely to seek help than men, and the highest consultation rates being amongst the old (Table B1). The likelihood of consulting a health professional also varies by household economic status, with those in the richest consumption quintile being over twice are likely to seek health care than those in the poorest (Table B2). These patterns in part reflect the differences in health status discussed above. However the proportion reporting needing to seek health care but not seeking help has risen between 2001 and 2004 in all quintiles with the exception of the richest.

In order to investigate how consultation rates vary across different sub-sections of the population, Table B3 presents the results of a series of logistic regressions. The dependent variable is having sought medical assistance for any reason during the last 30 days. The multi-variate analysis confirms that health status is an important predictor of consulting. Persons suffering from an acute illness in the last 30 days that has limited their usual activities are nearly 15 times more likely to seek medical assistance than those who have no acute illness. Interestingly, after controlling for health, children aged 0-4 are twice as likely to consult compared with other age groups, whilst older people are now no more likely to consult than other adults. Women are 1.5 times more likely to consult than men.

After controlling for health, people living in rural areas are slightly more likely to seek medical assistance than those living in urban areas, perhaps reflecting the more

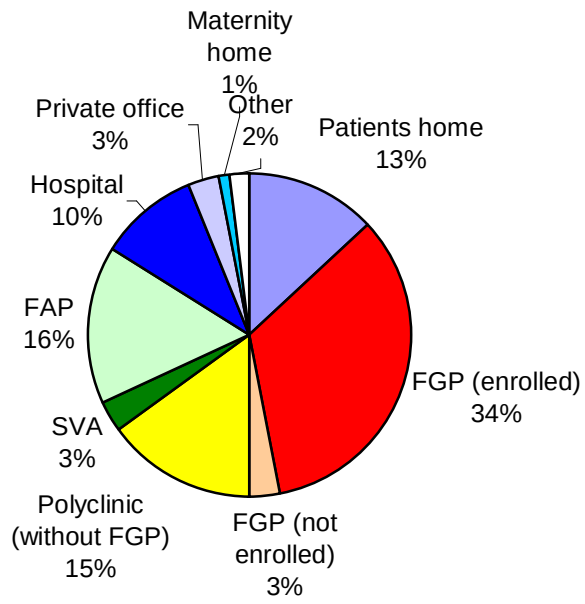
limited access to over the counter pharmaceuticals and opportunities to self medicate. There are significant regional differences in consultation rates with people living in Jalal-abad, Batken and Talas being more likely to consult compared with the reference group of Issyk-kul, whereas those living in Chui, Bishkek and Osh were less likely to do so and in Naryn it was about the same.

Finally, even after controlling for differences in self reported health status, there remains a significant difference in the likelihood of seeking medical assistance by socio-economic group, with those in the better off four quintiles being over 1.5 times more likely to consult than those in the poorest quintile – confirming that issues of access to primary care amongst the very poorest remain of concern.

3.1.2 Type of health care facility and professional consulted

In 2004, the vast majority of consultations continued to take place within a health facility; with just over in one in ten taking place in the patient's home. Nearly a third of all consultations took place at a FGP where the patient was enrolled (Figure 10). Between 2001 and 2004, the most notable change was the fall in consultations in a polyclinic without an FGP and a rise in visits to an FGP where the patient is enrolled, reflecting the expansion of FGP across the country. (Table B5).

Figure 10: Location of consultation



In general, there has been remarkable stability in the distribution of health care by provider over time. Although the answer categories were slightly different in the 1994 survey than in the two later surveys, in 1994 14 percent of respondents were visited at home by a doctor or nurse, 52 percent attended a dispensary or polyclinic, 7 percent a feldsher station (FAP), 12 percent a doctor's office, 8 percent a rural hospital, 2 percent other hospital, 2 percent a diagnostic centre, 1 percent a private office and 3 percent another type of facility.

The type of facility visited varies between urban and rural areas, with people living in urban areas being much more likely to attend an FGP/polyclinic, whilst those in rural areas were more likely to attend a hospital or FAP (Table B5).

In 2004, the majority (68%) of people consulting a health professional in the 30 days prior to the interview saw a state doctor. Only four percent saw a private doctor and less than one percent a 'healer'. The remainder have seen a dentist (7%), nurse (5%), midwife (13%), feldsher (4%), and pharmacist (under 1%). Between 2001 and 2004, the proportion seeing a midwife/nurse rose (from 11% to 19%) whilst those seeing a state doctor fell (from 73% to 68%).

The relationship between economic status and the *type* of health care used sheds light on issues of affordability and health care access. Table B6 shows that a higher proportion of the poor continue to use primary care facilities and providers, such as nurses and feldshers, than the non-poor - who are better able to afford the higher costs of polyclinic and tertiary care. Those living in the poorest households surveyed are more likely to be treated at home (which reflects a feldscher or nurse visit), or in a FAP (physician assistant/midwife posts) or SVA, than those living rich households, who are more likely to be treated by physicians in a FGP or polyclinic. Moreover, the gap in utilisation patterns between rich and poor has, if anything widened over the last 3 years.

3.1.3 Physical access to services and quality of care

Physical access to health care services can be evaluated according to two different indicators, geographical proximity (i.e. distance from the patient's home to the health facility) and travel time. The latter will vary according to both the geographic distance and the mode of transport used to cover that distance.

Table B7 presents information on the average distances travelled according to type of health facility and by region. Primary health care facilities tend to be located relatively close to patients homes, with the median distance around 1-2 km, whilst tertiary facilities involve greater distances. Not surprisingly, average distances are also greater in the less densely populated regions of the country and are highest in Naryn. Travel times are also significantly higher in Naryn, with a fifth of health facility visits involving a journey of over an hour (Table B8). The majority of patients (81%) travelled for less than half an hour, with those visiting tertiary facilities being most likely to experience longer journeys.

Just over two in five respondents who sought medical assistance in the 30 days prior to the survey incurred expenses in travelling to the health care facility (Table B9). The proportion varied by region, with 24 percent of those living in Issyk-kul reporting some travel costs compared to 56 percent amongst those living in Osh and 49 percent in Naryn. The amount paid also varied by region from a median of 10 soms in Bishkek to 50 soms in Naryn. Travel costs are strongly associated with the distance travelled and the mode of transport, with those travelling by ambulance incurring the highest costs.

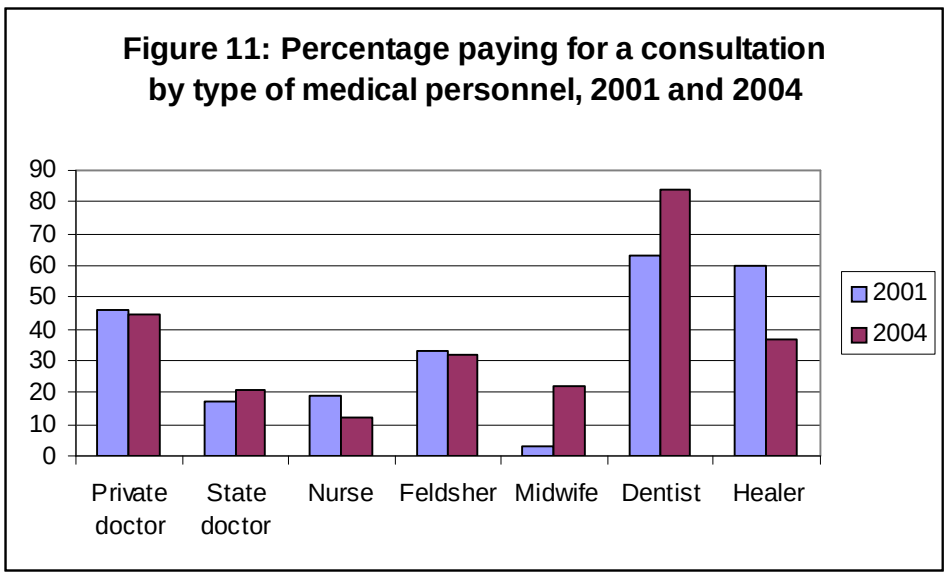
Once people have accessed health care, one indicator of the quality of care received is the time spent waiting to be seen. In general average waiting times are quite short. Most people report seeing a professional within 15 minutes (Table B10). Interestingly, compared with the situation in 2001, in 2004 there appears to be no difference in waiting times between a private and a state doctor.

3.1.4 Payments for consultations

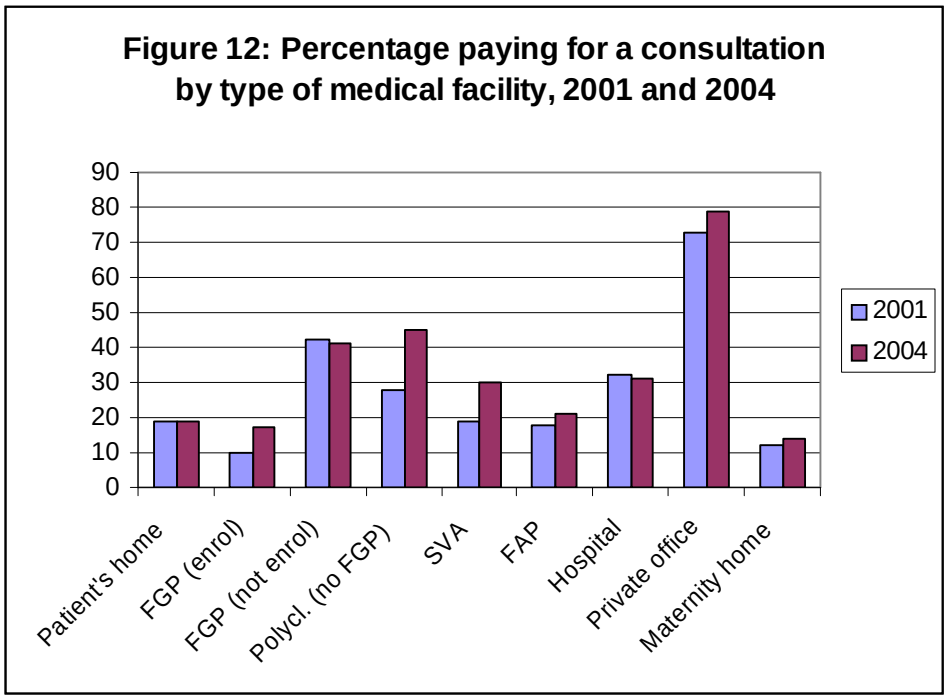
a) payments to providers

The proportion paying for primary health care increased between 2001 and 2004. Overall, 27 percent of those who reported that they had sought medical assistance in the last 30 days paid for the consultation in 2004, compared with 22 percent in 2001 (Table B11), and 25 percent in 1994. The largest rise between 2001 and 2004 was amongst those seeing a dentist (up to 84% from 63%) and a midwife (up to 22% from just 3% in 2001). The proportion reporting paying to see a nurse fell, whilst those seeing a state doctor rose slightly, from 17 percent to 21 percent (Figure 11).

Figure 11: Percentage paying for a consultation by type of medical personnel, 2001 and 2004



The percentage paying also varies by the type of facility visited (Figure 12 and Table B11). As expected, a lower proportion of people who visited an FGP where they were enrolled report making any payment (17%), compared to those who visited an FGP where they are not enrolled (41%) or a polyclinic with no FGP (45%). However the proportion paying has risen between 2001 and 2004 from 10 percent to 17 percent.



The **average amount paid** also varies by facility, with higher mean (and median) amounts paid to FGPs when the person is not enrolled[3] and polyclinics compared to FGPs were the respondent is enrolled. Similar amounts were paid for consultations at FGP where the respondent is enrolled and at FAP or SVA (median 20-30 soms). As expected payments are highest for private health care visits but are also very high for visits to maternity homes. Payments are also higher to doctors than nurses, with dentists receiving the largest sums.

There are significant regional differences in the proportion of those seeking medical assistance who have paid for the consultation (Table B12), varying from 40 percent in Osh and Chui, to 10 percent in Issyk-kul. Surprisingly the proportion reporting making a payment is higher in rural than urban areas, which runs counter to qualitative evidence which suggests that informal payments are primarily an urban problem. However, as we would expect, the mean level of payments are higher in urban areas. Table B13 explores this further, looking at average payments by type of provider and facility in urban and rural areas. Although the proportions paying are generally higher in rural areas, the level of average payments in lower.

[3] It should be borne in mind that, as such cases are rare, these numbers are based on relatively low cell counts.

The survey provides some insights into the functioning of the system of **exemptions**. Of all respondents seeking health care in the last 30 days, just under 6 percent fell into one of the 'exempt' categories detailed in question 8 of the questionnaire. Of these, only 15 percent of exempt people report making a payment for a consultation compared with 27 percent of non-exempt people. Although indicating that there is a degree of targeting taking place, there still seem to be issues of exclusion.

People were also asked whether they were covered by the **MHIF**. There are some differences in the likelihood of making a payment for the consultation between those who are covered by the MHIF (25%) and those who are not (33%).

When asked if they had received a **receipt for the payment**, 73 percent of all respondents replied 'it was difficult to say' with the remainder reporting that they had received a receipt. This is an improvement on 2001, where just 6 percent positively responded that they had got a receipt.

In order to assess factors associated with paying for primary care Table B14 presents the results of multi-variate analysis using logistic regression. It appears that the new system is operating well in terms of targeting. People covered by MHIF were less likely to pay than those who are not, as are those who are exempt. People with limiting chronic conditions were half as likely to pay as those with no chronic conditions, after controlling for other factors. Moreover the poor are likely to pay than the rich. There remain, however significant regional dispartities, with people in Osh being four as likely to pay than those in Issyk-kul. The result for Chui is puzzling. Table B3 showed that utilisation was lower in Chui than elsewhere and these results suggest that amongst those who consult a higher proportion are making payments. This warrants further exploration.

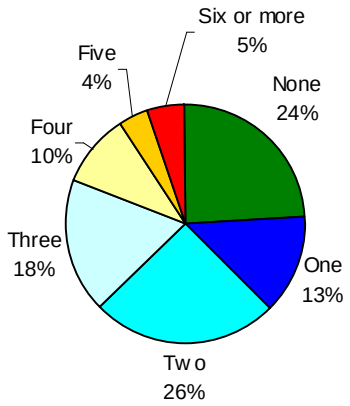
b) other payments

Just 17 percent of people reported that they made 'other payments' in connection with the consultation, such as those for diagnostic tests, compared with 32 percent in 2001 and 55 percent in 1994 (Table B15). Moreover only two percent reported giving a **gift** to the health personnel during the consultation. In this respect, it appears that the new charging mechanism of a single co-payment is working.

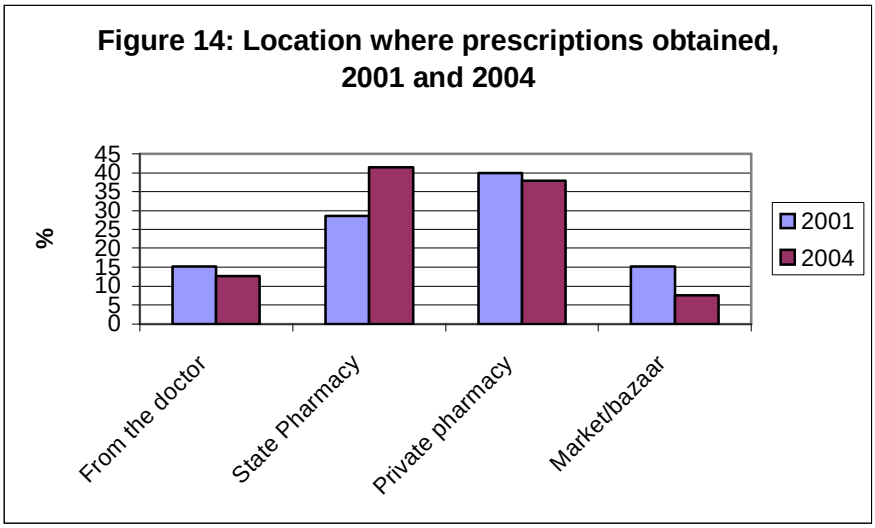
3.2 Prescriptions

Of those consulting a health professional in the last month in 2004, 76 percent received a prescription for at least one item (Figure 13). This compares with 65 percent in 2001. Nearly 20 percent received a prescription for 4 or more items.

Figure 13: Number of items prescribed



The majority of respondents managed to obtain all the items prescribed (91%) and a further 6 percent obtained some of the items. Only 3 percent did not obtain any (Table B16). This is a significant improvement on the situation in 2001, when only 77 percent obtained all the medicines prescribed, 14 percent obtained only a part and 9 percent obtained none at all and confirms that the Additional Drug Package is working. When asked why they did not obtain the medicines, just over a half (54%) of respondents in 2004 cited that the drugs were too expensive, compared with 61 percent in 2001.



Two-fifths of respondents with a prescription (42%) reported that they filled the prescription in a state pharmacy (Figure 14). Again this is a significant improvement on the situation in 2001 where just 29% were able to locate the drugs they needed in a state pharmacy. Figure 14 and Table B17). The median amount paid varied by location from 80 soms from the Doctor to 150 soms a private pharmacy (Table B18).

One in six (16%) of the total sample report that they have purchased some medication without a prescription in the last month at a mean cost of 82 soms.

3.3 Total payments relating to consultation

In 2004, the mean amount paid in relation to a consultation, amongst all who consulted a health professional was 245 soms. Over half of all people paid nothing at all for any service, including transport to the consultation, with the result that the median payment was zero (Table B19). Spending on prescriptions constitutes the largest share of total expenditures (75%), with payments for consultations being the next most important (13%).

Examining spending on health care *only* amongst those who *actually incurred some cost*s, the median (mean) total amount paid in relation to a consultation is 120 (276) soms in 2004, compared with 86 (193) soms in 2001 (Table B20). There are less regional variations in the levels of payments in relation to consultation with a health professional in 2004 than in 2001 (Table B21), with average payments being highest in Chui and Bishkek and lowest in Jalal-Abad.

Looking at the burden of heath care expenditure, amongst those who have consulted in the last month total payments for the consultations constitute on average nearly 8 percent of usual household monthly expenditures. This is very similar to the level found in 2001 (Table B22). Health care payments still represent a greater burden for the poor than the rich with health care expenses on average accounting for 8.3 percent of total household expenditures for the poorest households compared to 7.5 percent amongst the richest. However, the relative gap has narrowed since 2001, demonstrating that the reforms have been progressive in nature. Nevertheless, it is too early for complacency as for some poor households, health care expenditures associated with a consultation represented nearly three times their usual monthly household expenditures.

3.4 Barriers to access?

Figure 7 above highlighted the fact that a higher proportion of men and women who felt they need heath care in the last 30 days did not seek treatment than those who did, and that this had increased over time. Tables B23-25 present the reasons for non-use by different characteristics. The highest proportion reporting **affordability** as a reason for non-use are found in Chui (31%); this was also the case in 2001.

Affordability appears to be a greater issue amongst male pensioners than other age groups, but surprisingly there appears to be no strong association with household economic welfare, although cell counts are low. However multi-variate analysis (Table B3) demonstrates there is a significant difference in the likelihood of seeking medical assistance by socio-economic group even after controlling for health, age and region, with those in the poorest quintile being significantly less likely to consult. Thus issues of improving access to primary care amongst the very poorest should continue to be of concern to policy makers.

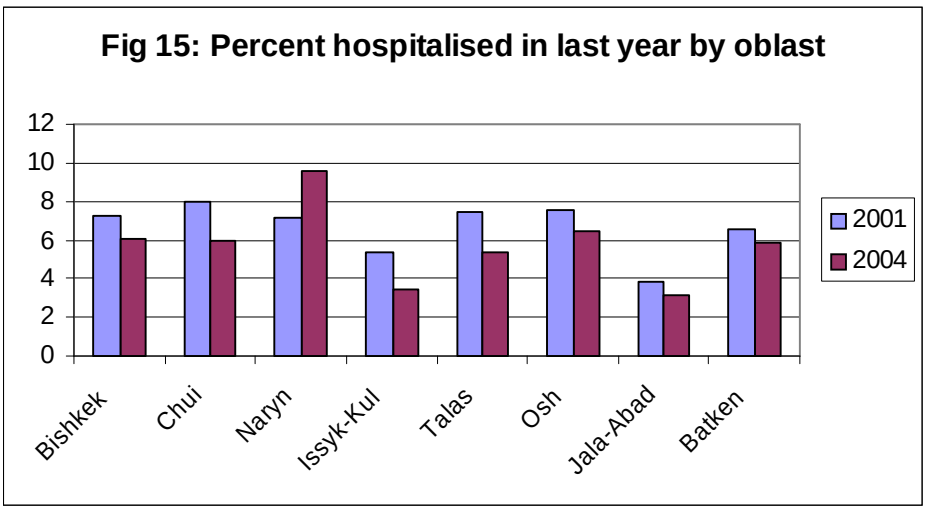
4. Hospitalisation in the last year

4.1 Patterns of hospital use

In the 12 months prior to the survey 5.5 percent of all respondents reported at least one hospital inpatient stay (compared to 6.6% in 2001). Of these, 10 percent were hospitalised twice and 3 percent three or more times.

4.1.1 Hospitalisation rates

Hospitalisation rates vary by age and gender (Table C1), the highest hospitalisation rates being amongst older men (10%) and working age women (10%). There are significant regional differentials in hospitalisation rates; the highest in 2004 being in Naryn (10%) and the lowest in Jalal-Abad (3%) (Figure 15). There was no difference in the hospitalisation rates between the urban and rural population. Hospitalisation rates fell in all regions between 2001 and 2004, with the exception of Naryn.



In 2001, there were significant differences in hospitalisation rates by economic status with utilisation rates amongst the richest (9%) being nearly *twice* that of the poorest (5%) (Table C2). Not only were the well-off more likely to use hospital services, they also experience a higher mean *number* of hospitalisations (1.29) than on average. By 2004, the differences by socio-economic group were much less marked. Hospitalisation rates amongst the lowest quintile remained unchanged as compared with 2001. However

rates amongst the richest quintile fell from 9 percent to just under 6 percent. This may reflect the fact that the reforms have deterred unnecessary use of tertiary health services. However an alternative, more pessimistic interpretation may be that even the rich are now less able to afford hospital care.

Once again these patterns in hospital use may reflect the differences in health status between groups. In order to further investigate how hospitalisation rates vary across different sub-sections of the population, Table C3 presents the results of a logistic regression. The dependent variable is having an inpatient stay during the last12 months. After controlling for health status, age and sex the differences in hospitalisation by socio-economic group are seen in table C2 are significantly reduced and infact those in the richest quintile are actually less likely to be hospitalised than those in the poorest quintile. Interestingly, however, large regional differences remain, with a higher likelihood of hospitalisation in all other regions when compared with Issyk-kul, and the highest rates being found in Naryn.

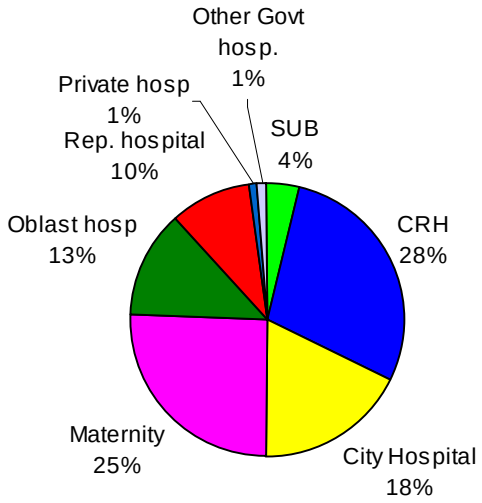
4.1.2 Conditions for which patient hospitalised

The conditions for which respondents report being hospitalised largely reflect the pattern of age-specific chronic conditions identified above. Amongst children, the main causes of hospitalisations are due to infectious and parasitic diseases and respiratory problems. Over half of all hospitalisations amongst women aged 16-54 are related to pregnancy (Table C4). These patterns remain very similar to those found in the 2001 survey.

4.1.3 Type of facility

Nearly a third of people were admitted to a Central Raion Hospital (CRH), a quarter to a maternity hospital and a further fifth to a City hospital. Oblast and Republican hospitals both account for around one in ten hospitalisations, whilst private hospitals account for less than one percent (Figure 16). The type of facility a person is referred to varies by region, with Republican hospitals accounting for 21 percent of people hospitalised from Bishkek compared with just 1 percent of people from Jalal-Abad and Osh.

Figure 16: Type of facility



The type of facility also differs according to economic status (Table C5). Persons living in the poorest fifth of households remain much more likely to report being hospitalised in a CRH (31%) compared to the richest fifth (22%), although this gap is less marked than was the case in 2001. In contrast those in the richest quintile are ten times more likely to receive care in a Republican Hospital than those in the poorest quintile.

Amongst those hospitalised, in 2004 there are now no clear differences in the distribution of types of treatment received by quintile group, with the poor being as likely to be the subject of a surgical intervention and intensive care as the rich. This is a marked improvement since 2004. Overall, a fifth of those hospitalised in the 12 months prior to the March 2004 survey underwent surgery compared to just 10 percent in 2001. It could be argued that the introduction of a fixed cost for surgical interventions has had the effect of facilitating more people to have such interventions. However given that overall hospitalisations have fallen, it may also mean that those who are hospitalised are those in poorest health and greatest need and it is this that accounts for the higher proportions experiencing surgery.

4.1.4 Type of referral

The majority of people hospitalised are referred from a primary care facility such as an FGP (31%), Polyclinic (20%) and a FAP (13%) (Figure 17). There has been a small fall in the proportion who are self-referred, down to 19 percent in 2004 from 22 in 2001. One might have anticipated a greater reduction given the higher co-payment for such referrals. However it is important to take into account the type of facility (Table C6). In 2001, 44 percent of visits to a SUB were self-referred; by 2004 this had fallen to just 9 percent. Interestingly however, in 2001 11 percent of visits to a Republican Hospital were self-referred; by 2004 this had risen to 19 percent. Thus the main issue with self-referrals therefore appears to be at the Republican level.

Figure 17: Source of referral to hospital

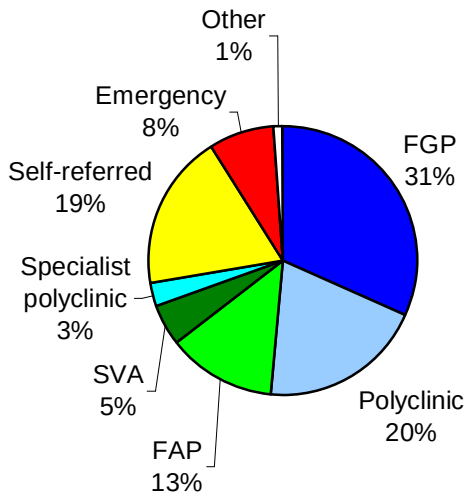


Table C7 examines differences in referrals by socio-economic group. In general, those living in households in the poorest 60 percent of the welfare distribution are most likely to self-refer to hospital for health care, with only 12 percent of the richest quintile compared to 26 percent of the middle quintile and 19 percent of the poorest quintile. There are clear differences in the type of care to which people self-refer, with the majority of those in the poorest quintile self-referring to a maternity hospital (62%). In

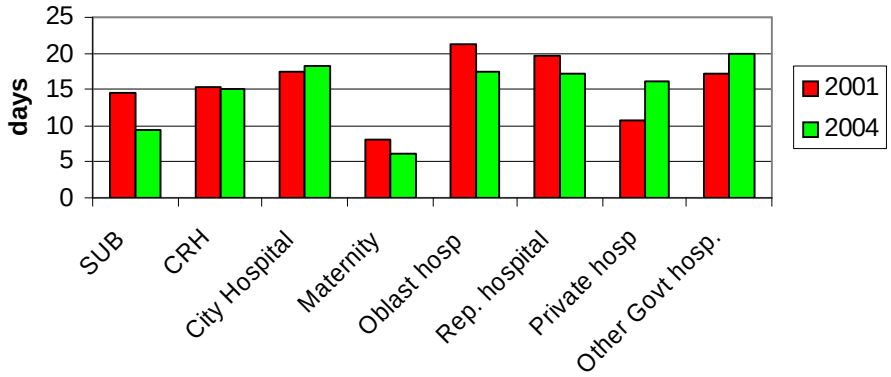
contrast, those at the top of the welfare distribution were more likely to self-refer to a Republican or Private Hospital.

4.1.5 Length of stay

The mean length of an inpatient stay in 2004 was 13.8 days, and the median stay was 10 days. This is a reduction from 2001 when the mean (median) length of stay was 15.3 (12) days; and significantly shorter than was the case in 1994, when the mean (median) length of stay was 26.0 (15) days. Thus it appears that the continuing efforts by the Ministry of Health to reduce the time patients are in hospital have been successful.

Not surprisingly, the mean length of stay varies considerably by type of facility, from 6 days in a maternity hospital to 18 days in a City hospital (Figure 18). Between 2001 and 2004, length of stay has been reduced most effectively in ATH (previously SUB), and the Republican hospital but has actually risen, on average, in City hospitals.

Figure 18: Average (mean) length of stay by type of facility



4.2 The 'costs' of hospitalisation

4.2.1 Travel expenses

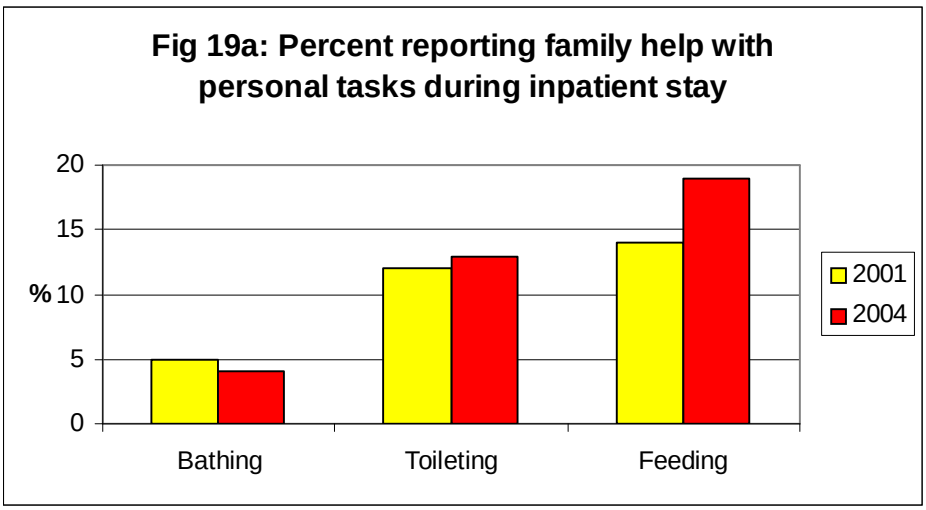
As was the case in 2001, the majority of people attended a hospital close to their home. The median distance travelled was just 8km. However, there was a very wide degree of variation, with a minimum of 100 metres and maximum of 900 km (Table C8). The distance varied by the type of hospital, with people travelling furthest to reach

Republican hospitals, private hospitals and oblast hospitals. The time spent travelling also varied widely. Overall around two-thirds of patients had to travel less than half an hour. However six percent travelled for more than four hours; and nearly a third of those visiting a Republican hospital spent over 4 hours getting there (Table C9).

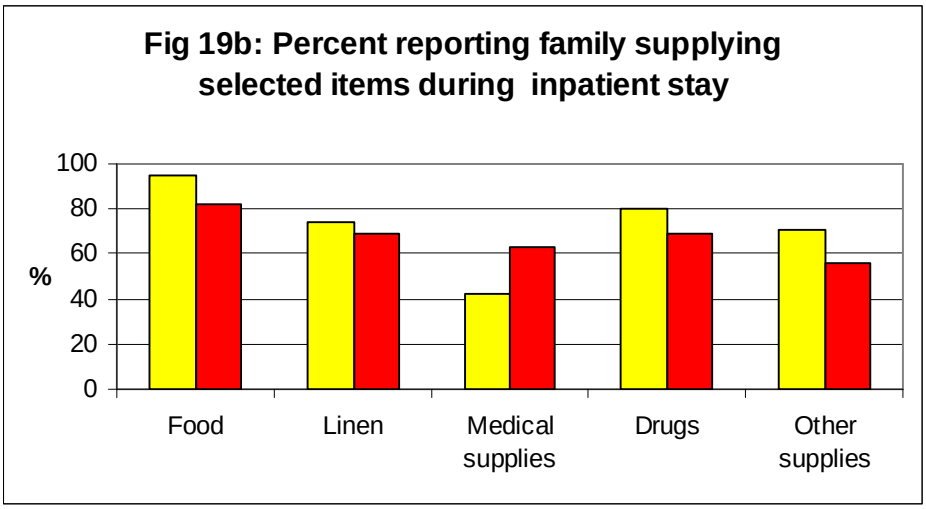
There are clear differences in the mode of transport used to access hospital services by type of facility and by region (Table C10). Eleven percent of all inpatients were brought to hospital by ambulance[4]. This figure rose to 20 percent for patients in City hospitals.

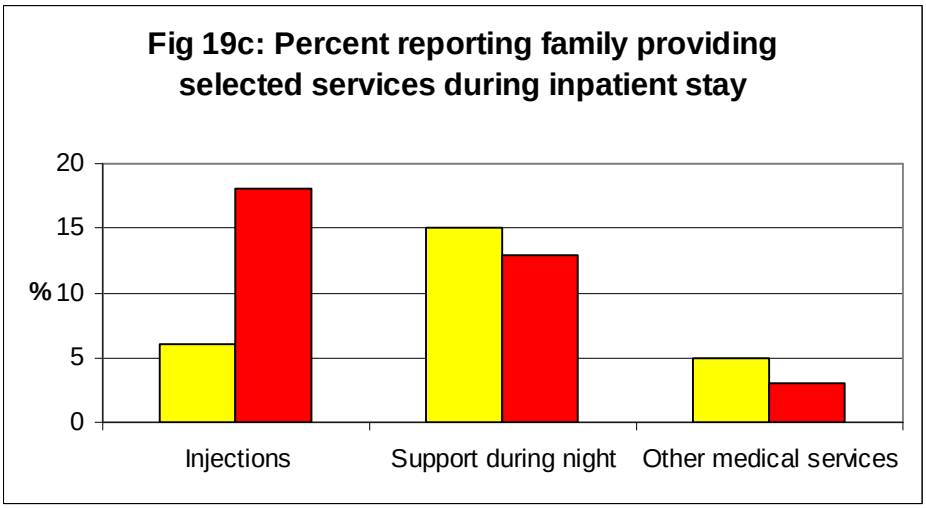
4.2.2 Family support

Hospitalisation represents a major expenditure for most households. It is common for patient's families to offset some of the costs by providing food and linen and taking responsibility for personal care tasks such as bathing and feeding their ill family member However, it also appears that a number of families are assuming other responsibilities conventionally restricted to nurses and doctors, such as administering medications and injections. Looking at changes over the period 2001-2004, it seems that provision of personal care has increased (Figure 19a). Fewer family members are providing food and linen but more are providing medical supplies (Figure 19b). Most shockingly, the proportion providing help with administering injections has risen from 6 percent in 2001 to 18 percent in 2004 (Figure 19c). check statistical significance of change over time



[4] In 2001, 9% of all inpatient admissions were brought to hospital in an ambulance; in 1994 this figure was 14%.





There are differences in the patterns of in-kind contributions by socio-economic group, with those from richer households being more likely to receive linen or drugs than those from poor households, whilst the poor are more likely to bring in food (Table C11). Interestingly the socio-economic differentials in in-kind provision have generally narrowed between 2001 and 2004.

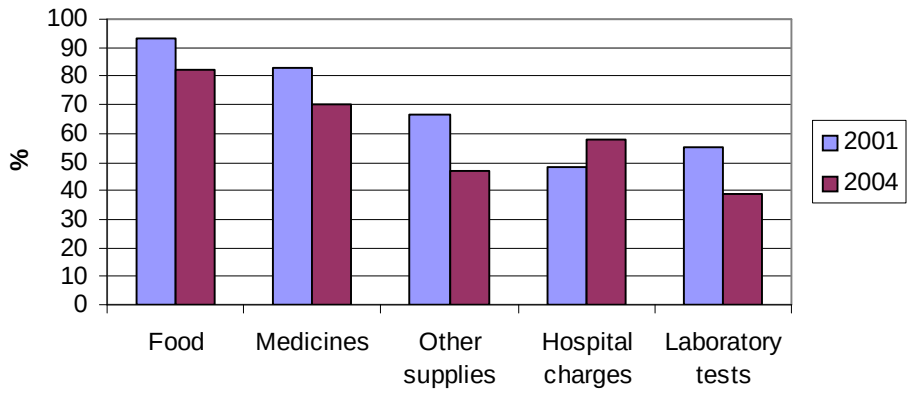
4.2.3 Payments for medicines and services

As Figure 20 shows, although the proportion paying hospital charges has increased between 2001 and 2004, the proportion reporting making other categories of

payments has fallen, which suggests the single co-payment policy is beginning to take affect.

Although this is excellent news, it is important to note that the proportion paying for medicines and services during hospitalisation remains very high. In 2004 amongst all inpatients, 82 percent report paying for food, 70 percent for medicines, 47 percent for other supplies, 58 percent for hospital charges and 39 percent for laboratory tests. Over half of people paying hospital and laboratory charges reported that they did *not* get a receipt, making it difficult to identify whether these charges were formal or informal.

Figure 20: Proportion paying for services during hospitalisation, 2001 and 2004



There is evidence that in 2004 a lower proportion of the poor pay hospital charges and for lab tests than the rich, but more pay for food and medicines (Table C12). Moreover, those in the lowest quintile pay a lower amount. However even then costs of charges and medicines can be prohibitive. The median payment for medicines for those in the lowest quintile was 300 soms (see also the accompanying research paper on catastrophic payments).

4.2.4 Payments to staff

Table C12 presents some information on the proportion making a payment/gift direct to staff during hospitalisation. The differences by economic status partly reflect differences in the types of treatment obtained during hospitalisation, as the data in Table C13 is for ***all*** inpatients rather than those 'at risk of paying'. For example, it is unlikely

that a patient would be expected to pay for the services of a gynaecologist if they were not pregnant or delivering! Thus the fact that the proportion making a cash payment to a gynaecologist is twice as high amongst the poor (25%) than the rich (11%) may be explained by the fact that (as shown in Table C5) the poor were more likely to have visit a maternity hospital than the rich (36% v 11%).

In general, a low proportion of inpatients report making direct payments to staff. However when they do so, the size of the payments may be considerable – especially to surgeons. There appears to be some evidence that payments are solicited by hospital staff, particularly anaesthesiologists (Table C14), although in the majority of cases inpatients reported that the payment was a gift.

4.3.5 Total expenditure

Overall, the mean total cost incurred during a spell in hospital in the year prior to the survey was 1956 soms (median 1240 coms). This compares with 1270 soms (median 720) in 2001. Of this, drugs accounted for 45%, food 26%, and hospital charges 31%.
Average expenditure varied considerably by oblast:

- Jalal-Abad 1,219 soms (median 980)
- Issyk-kul 1,258 soms (median 885)
- Batken 1,503 soms (median 820)
- Talas 1,552 soms (median 1040)
- Naryn 2,034 soms (median 1130)
- Bishkek 2,074 soms (median 1700)
- Chui 2,127 soms (median 1470)
- Osh 2,335 soms (median 1560)

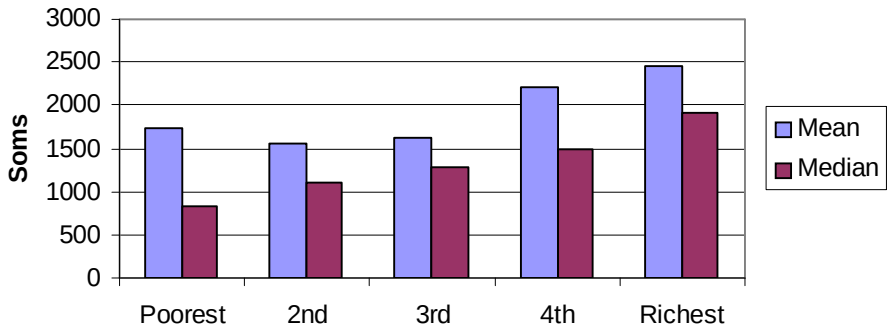
The ranking by oblast changes according to whether mean or median expenditures are used. Mean expenditures are lowest in Jalal-Abad and highest in Osh. However expenditures in Osh are skewed, with the mean being influenced by a few cases involving very high expenditures. Using the median, total expenditures are highest in Bishkek and Chui and lowest in Batken, which was also the case 2001.

Hospital expenses also varied by age and gender:

- Child under 16
  - Boy 1563 soms (median 1100)
  - Girl 1,348 soms (median 1150)
- Working age
  - Male 2,482 soms (median 1850)
  - Female 1,843 soms (median 1100)
- Pension age
  - Male 1,994 soms (median 1470)
  - Female 2,058 soms (median 1500)

The level of expenses by children and persons over pension age is surprising given that both these groups are theoretically covered by the MHIF.

Figure 21: Total expenditure on hospitalisation by economic status

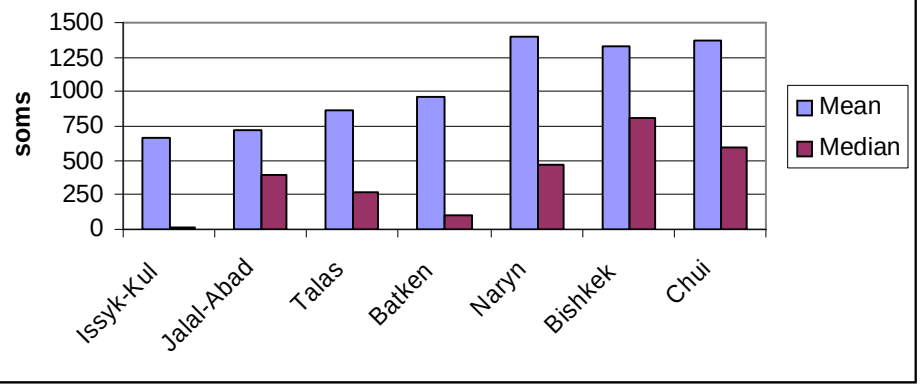


Total expenditures on hospitalisation also varied by economic status from a mean (median) of 1727 (830) soms for those living in the poorest fifth of households to 2460 (1920) for those living in the richest fifth of households (Figure 21). Thus, looking at absolutely levels of payments, hospital payments appear to be progressive. However, although the poor pay less on average for a hospital stay than do the rich, it represents a greater *share* of total household resources (Table C15). On average, a stay in hospital by one individual represents around 5 percent of the household's *yearly* expenditures (or a half of the household's usual monthly expenditure) amongst the poor compared with 3 percent amongst the rich.

4.3 Co-payments and household expenditures on health care

Given that one of the main purposes of the survey was to provide data for the evaluation of the new co-payments for inpatient stays, it is useful to examine the distribution of payments in relation to the new co-payment thresholds. It is not possible to distinguish whether the patient's stay was in 2003 or 2004. However as the survey was conducted in March 2004, it is fair to assume that the majority took place in 2003. Using the 2003 co-payment rates combined with information on patient's status, i.e. exempt, insured, uninsured, without referral and whether or not the admission involved surgery, it is possible to calculate the actual payment over and above the expected co-payment. The new co-payment rates had not been introduced in Osh in 2003, and so it is excluded for the analysis presented in Table C16 and Figure 22 below.

Figure 22: Payments for hospitalisation in excess of co-payment rate



There are several points to note. First, substantial expenses over and above the co-payment rate are being incurred for hospital stays, particularly in Bishkek, Naryn and Chui. However median levels of payment are much lower than mean payments, indicating that a considerable proportion of patients are paying nothing or very little over and above the co-payment rates but a few people are paying substantial amounts (see 3rd column in Table C16). Secondly, average excess payments are much lower in Issyk-kul, Jalal-adad, Talas and Batken than in Naryn, Bishkek and Chui. Third, if one excludes spending on food, then hospital expenditures are much lower and indeed median excess

payments are zero in everywhere except Naryn and Chui – indicating that at least half of all inpatients do not pay more than the co-payment rate. Thus the new co-payments seem to be working.

Table C17 presents the same analysis for socioeconomic groups, excluding Osh. Average excess payments are lower for the bottom 60 percent than the top 40 percent, again demonstrating improved equity. However, it is too early to be complacent and there are still some poor people making significant payments. The impact of payments for health care on household welfare is further examined in the separate paper on catastrophic payments.

5. Total private health care expenditures

The results of the KHHFS can be used to estimate total household spending on both outpatient and inpatient care for population as a whole. Table D1 in the appendix shows the average per capita spending on a range of different components of health care. These figures are for the last consultation in the previous 30 days or the most recent inpatient stay in the last year. Amongst those who consulted in the last 30 days, patients reported an average of 1.46 visits, with the median being 1 visit and the maximum being 9. Similarly amongst those with an inpatient stay in the last year, the average number of stays was 1.12 with a median of 1 and a maximum of 3.

In order to obtain annual estimates for the population as a whole we to

a) need to multiply the outpatient data by a factor of 12. This assumes that the last month was typical for the year. As the survey was conducted in March, the 30 days prior to the survey covered February. One might expect acute ill health to be worse in the winter months, with the result that we may over-estimate yearly outpatient expenditure.

b) adjust the data to take into account the average number of visits in the reference period. This can be done in two ways. First one can multiple the data for each respondent by their *actual* number of reported visits. This assumes that the expenditure on the last visit is typical of all their visits. However this may overestimate total expenditure, particularly for those people who report a large number of visits. An alternative is to use *average* number of visits.

c) aggregate the data for different demographic groups to obtain a total for the population. Here we use the grossing up sampling weights provided by the NSC.

The full results for these alternative approaches are shown in Table D2, which includes 3 variants: A, B and C. Variant A reflects the lower boundary, assuming that respondents reported all expenditures associated with health care as being associated with the last visit. Infact the questionnaire does not explicitly ask respondents to limit their answers to the last visit so it is plausible that some respondents have actually amalgamated all the expenses for all outpatient and inpatient visits in the reference period associated with their chronic or acute illness. Variant B adjusts the data using actual visit and inpatient stays and reflects the upper boundary. Variant C adjusts the data using

average number of visits. In sum, total private spending on health care in 2003 ranged from 2.3 billion som to 3.2 billion som, with a mid range estimate being 2.9 billion.

	Mean expenditure per capita (soms)	Total spending on population Millions of Som (population = 503727)
Variant A		
Annual private exp on health exc travel and food	471	2,375
Of which, annual private spending on drugs	371	1,867
Variant B		
Annual private exp on health exc travel and food	648	3,266
Of which, annual private spending on drugs	488	2,457
Variant C		
Annual private exp on health exc travel and food	584	2,943
Of which, annual private spending on drugs	453	2,284

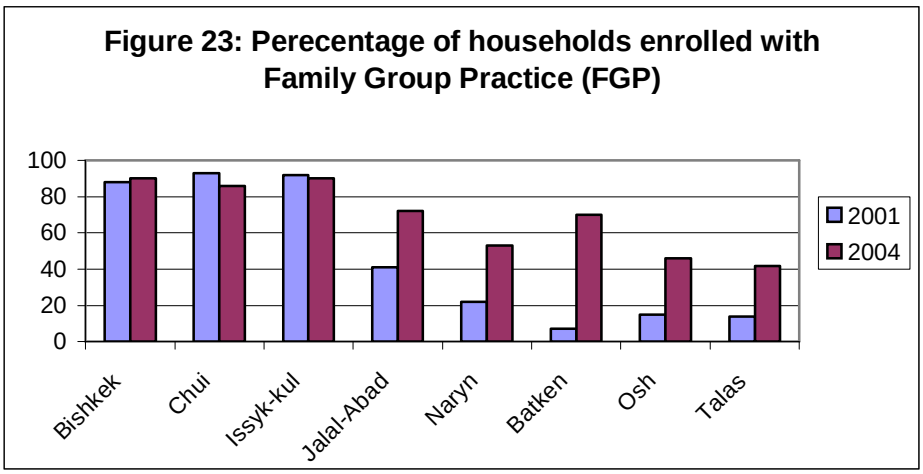
6. Knowledge and Attitudes regarding the health reforms

6.1 Coverage of MHIF

Knowledge of coverage by the Mandatory Health Insurance Fund (MHIF) is now quite good (Table D1). 82 percent of boys and girls are now reported as being covered, compared with just 14 percent of boys and girls in 2001. Amongst pensioners, knowledge is also high at around four out of five knowing they are insured.

6.2 Enrolment in FGP

As of March 2004 over half of all households (51%) reported that they were enrolled with a Family Group Practice (FGP). Not surprisingly, the proportion was much higher in the areas of the country where FGPs were introduced first (Figure 23).



The majority of enrolled households (83.5%) report that they do not have to pay anything at the FGP. Of the minority that do report paying, 31 percent reporting paying to see the doctor, 39 percent to open a personal card, 36 percent for procedures, 19 percent for diagnostic services and 13 percent for a referral.

6.3 Entitlements to and use of discounts

Six percent of households reported that at least one member was entitled to purchase medicines with a discount. Of these:

- 52% always exercised this right
- 10% do not exercise this right due to lack of documents

- 21% do not exercise this right due to lack of medicines
- 5% do not exercise this right due to the fact that doctors are reluctant to prescribe
- 6% do not exercise this right as, even with the discount, the medicines are difficult to afford
- 2% do not exercise this right due to lack of resources at the facility level

It appears therefore that there continue to be both administrative and financial obstacles that need to be resolved in order to improve the operation of the prescription discount scheme.

6.4 Access to health care

Only in a very few cases (2%) do households report that a persons has ever been *refused* health services. Of these, 40 percent said it was because they could not afford the services. However, over a third (39%) of households reported that someone had been ill but did not seek health care.

Of these:

- 65% self-medicated using traditional herbs
- 31% self-medicated using medicines they already had
- 15% put off getting help as they could not afford it
- 14% thought they would get better without doing anything
- 2% were deterred from seeking help by their distrust of doctors
- 2% were deterred from seeking help by their perception of poor quality services

Thus, a minority of households are still deferring seeking health care due to financial barriers. Moreover, qualitative interviews have shown that many people self-medicate in order to avoid the costs of a formal health care visit. Therefore the actual proportion deferring seeking formal health care in Kyrgyzstan due to its cost may actually be considerably higher.

In addition, 4% of households had someone who had been referred to hospital but not gone. Of these:

- 78% did not attend as they could not afford it
- 15% thought they would get better without doing anything

- 8% were deterred from seeking help by their distrust of doctors
- 1% were referred to another hospital
- 1% were unable to physically get to the health care facility

7. Conclusions

On balance the analysis of the KHFS for 2004 shows some encouraging signs that equity within the health sector has improved since 2001. Socio-economic differentials in self reported morbidity appear to have narrowed, as have differences in hospitalisation rates and payments for health care.

	Direction of socio-economic differentials 2001 - 2004
Chronic ill health	narrowing
Acute ill health	narrowing
Consultation rates	widening
Payments for outpatient care	narrowing
Hospitalisation rates	narrowing
Payments for hospital care	narrowing

However, the analysis also highlights that there are still areas which need urgent policy attention. Of particular concern is the growth of informal payments in primary care. Over a quarter of people reported that they were asked to make a payment for their last consultation and three-quarters paid for a prescription. Moreover the average level of payments has increased over the last three years, and health care payment represent a greater proportion of total household expenditures for the poor.

There are clear regional differences in the propensity to pay for outpatient care, with Osh and Chui exhibiting the highest rates.

Availability of prescription drugs has also improved, with over 90 percent obtaining all the items prescribed – reflecting the success of the Additional Drug Pacakage.

Hospitalisation rates have fallen in all regions, except Naryn, indicating that the new co-payments system is beginning to be effective in reducing unnecessary admissions. It also appears that the co-payments system has reduced the number of self-referrals, particularly to rural units. However, self referral remain an issue at the Republican level, where they account for nearly a fifth of visits. Self referrals to

Republican hospitals are higher amongst higher socio-economic groups, reflecting their greater ability to pay the higher co-payment rates.

Overall expenditures on hospitalisations remain high, although it appears that the new system has been effective at reducing informal payments with over half of all inpatients making no payment above the co-payment threshold after food costs were accounted for.

Knowledge of the new reforms is high and most pensioners and children were aware of being covered under the MHIF. However enrolment in Family Group practices remains low in some regions, notably Naryn, Talas and Osh.

Finally a small minority report being deterred from seeking health care due to the perceived cost. It is anticipated that as knowledge of health reforms continues to spread this may be reduced. However it remains important to continue to improve targeting of services to those most in need.

Appendix I Tables

The majority of the analysis is on weighted data; weights are provided to ensure the sample is representative at the oblast level. However a minority of tables, such as types of chronic and acute conditions, are presented using unweighted data as cell counts are low and it is inadvisable to give a high weight to any one case.

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A. Health status

Table A1 Percentage reporting chronic and acute ill health by age and gender, 2001 and 2004.

	Men			Women		
	0-15	16-59	60+	0-15	16-54	55+
2001						
Chronic ill health lasting more than 3 months	3.4	10.2	31.4	3.1	15.1	45.7
Limiting chronic ill health	*0.8*	*3.6*	*13.0*	*1.0*	*5.1*	*19.7*
Acute ill health in last 30 days	13.7	11.4	23.5	16.5	20.4	38.9
Limiting acute ill health	*10.0*	*7.8*	*20.1*	*11.8*	*13.2*	*27.1*
2004						
Chronic ill health lasting more than 3 months	1.8	7.8	26.8	1.9	10.0	39.3
Limiting chronic ill health	*0.5*	*2.5*	*10.4*	*0.5*	*3.2*	*17.1*
Acute ill health in last 30 days	15.1	8.9	19.7	16.5	14.7	28.2
Limiting acute ill health	*8.8*	*5.9*	*14.2*	*10.7*	*9.3*	*21.5*

Note: chi-square for differences by age for both men and women significant at ($p<0.001$)
Note: working age is defined as 16-54 for women and 16-59 for men. Pension age is defined as 55 and over for women and 60 and over for men.

Table A2 Percentage reporting chronic and acute ill health by economic status (quintile of per capita total monthly household expenditure), 2001 and 2004.

	Quintile of per capita monthly expenditure					
	Bottom	2	3	4	Top	All
2001						
Chronic ill health lasting more than 3 months	5.8	7.3	11.0	13.3	23.8	11.8
Limiting chronic ill health	*2.0*	*2.2*	*4.5*	*5.3*	*8.1*	*4.3*
Acute ill health in last 30 days	13.2	12.0	15.7	21.3	25.2	17.1
Limiting acute ill health	*9.9*	*8.4*	*11.1*	*14.6*	*17.5*	*12.1*
2004						
Chronic ill health lasting more than 3 months	4.5	4.9	7.5	9.8	16.6	8.7
Limiting chronic ill health	*1.4*	*2.1*	*2.8*	*3.8*	*5.2*	*3.1*
Acute ill health in last 30 days	12.6	10.9	14.2	15.8	18.0	14.3
Limiting acute ill health	*7.6*	*6.6*	*9.8*	*10.7*	*12.3*	*9.4*

Note: chi-square for differences by economic status significant at ($p<0.001$)

Table A3 Of those with a chronic condition, proportion reporting various parts of the body affected, 2004.

	Men			Women		
	0-15	16-59	60+	0-15	16-54	55+
Infectious / parasitic disease	1.8	2.5	1.9	8.8	2.0	0.5
Tumor		0.2	0.2	0.7	0.9	0.5
Diseases of blood & blood producing organs	8.3	8.2	6.4	7.9	6.6	14.3
Endocrine diseases	4.4	3.0	2.3	8.0	5.3	5.0
Psychic	5.9	6.0	1.7	4.8	3.3	1.2
Nervous system	20.9	7.9	7.1	5.1	8.3	7.2
Eye	6.5	4.7	6.1	3.8	3.6	5.8
Ear	3.5	4.3	3.4		1.0	1.5
Circulatory problems	6.4	9.6	22.5	5.7	10.4	22.2
Respiratory problems	19.8	14.8	18.4	34.1	14.9	11.9
Digestive system	2.5	18.3	10.0	3.3	18.7	11.7
Dermatological problems	5.2	0.6	0.4		1.6	0.7
Muscular-skeleton	4.7	9.5	12.7	5.6	6.2	12.4
Urino-genital	3.1	5.2	4.7	4.6	13.8	3.7
Innate anomalies	4.3	1.2	0.3	5.1	0.6	0.4
Traumas & poisoning	2.6	3.6	1.6	2.5	1.4	0.2
Unspecific diagnosed conditions		0.3	0.5		1.1	0.9
Pregnancy					0.4	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(N)	(84)	(344)	(129)	(86)	(556)	(349)

Table A4 Of those with an acute illness or injury in last 30 days, proportion reporting various parts of the body affected, 2004.

	Men			Women		
	0-15	16-59	60+	0-15	16-54	55+
Cold/flu	88.5	65.6	48.6	86.8	65.1	53.9
Stomach	0.3	6.0	6.4	1.1	3.0	2.6
Diarrhoea		0.3	0.6	0.1		
Ear/nose/throat	3.4	2.2	2.9	4.4	3.4	0.9
Liver	0.1	1.3	2.3		2.2	2.6
Kidney	0.5	2.1	6.5	0.2	4.4	2.7
Headache	0.9	7.6	14.4	1.7	8.4	16.7
Heart	0.1	2.8	7.4	0.4	1.1	7.8
Lung	0.1	1.5	1.6	0.5	1.1	2.1
Teeth	3.1	4.2	1.9	2.4	2.6	0.5
Skin	1.2	0.4	0.6	0.9	0.7	1.0
Broken bone	0.2	1.0	0.4		1.0	0.8
Other trauma	0.2	2.6	2.2	.03	1.6	0.5
Pregnancy, delivery					2.7	
Other illness	1.3	2.2	4.2	1.2	2.5	8.0
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(N)	(355)	(389)	(99)	(413)	(781)	(304)

B. Utilization of health care services

Table B1 Utilization of health care services by age and gender, 2001 and 2004.

Sought medical assistance in last 30 days	Men			Women		
	0-15	16-59	60+	0-15	16-54	55+
2001						
Yes	8.2	5.3	13.7	9.4	11.0	22.3
Needed, but did not seek	9.6	9.3	17.8	11.7	15.7	31.1
2004						
Yes	7.9	4.2	13.4	9.0	9.7	19.7
Needed, but did not seek	13.0	9.8	21.6	13.6	16.4	35.1

Note: chi-square for differences by age significant at ($p<0.001$) for both men and women

Table B2 Utilization of health care services by economic status (quintile of per capita total monthly household expenditure), 2001 and 2004.

Sought medical assistance in last 30 days	Quintile of per capita monthly expenditure					
	Bottom	2	3	4	Top	All
2001						
Yes	6.3	6.2	8.8	12.5	14.3	9.4
Needed, but did not seek	10.4	9.9	12.6	14.1	20.2	13.2
2004						
Yes	5.9	8.0	8.5	9.1	11.1	8.5
Needed, but did not seek	12.1	10.9	12.7	17.4	19.8	14.6

Note: chi-square for differences by economic status significant at ($p<0.001$)

Table B3: Odds ratios of having applied for medical assistance in the last 30 days.

	(1)	(2)	(3)
Ref. No acute ill health	1.00	1.00	1.00
Non limiting acute	8.17 ***	8.80 ***	9.10 ***
Limiting acute	13.31 ***	14.93 ***	14.84 ***
Ref. No chronic ill health	1.00	1.00	1.00
Non limiting chronic	2.09 ***	2.51 ***	2.67 ***
Limiting chronic	9.38 ***	10.56 ***	10.03 ***
Ref. 0-4	1.00	1.00	1.00
5-15	0.46 ***	0.45 ***	0.42 ***
16-39	0.41 ***	0.41 ***	0.39 ***
40-59	0.40 ***	0.40 ***	0.35 ***
60-74	0.57 ***	0.56 ***	0.50 ***
75+	0.46 ***	0.45 ***	0.42 ***
Ref. male	1.00	1.00	1.00
female	1.58 ***	1.56 ***	1.56 ***
Ref. urban		1.00	1.00
rural		1.08 ***	1.03 ***
Ref. Issyk-Ku		1.00	1.00
Jalal-abad		1.22 ***	1.20 ***
Naryn		0.92 ***	0.98
Batken		1.08 ***	1.08 ***
Osh		0.90 ***	0.92 ***
Talas		1.02	1.05 ***
Chui		0.54 ***	0.53 ***
Bishkek		0.97 ***	0.91 ***
Ref. Bottom 20th quintile			1.00
quintile==2			1.64 ***
quintile==3			1.53 ***
quintile==4			1.56 ***
Top 20th quintile			1.70 ***
Constant	-2.875	-2.872	-3.138
Cox R-squared	0.132	0.134	0.137
Observations	20672	20672	18690

Weighted data using weight1 for model (1) and (2) and weight2 for model (3).
* significant at p< 0.05; *** p<0.01; *** p < 0.001.

Table B4 Condition for which medical assistance sought, by age and gender (%), 2004

	Men			Women		
	0-15	16-59	60+	0-15	16-54	55+
Physical illness	52	70	57	63	59	63
Mental illness	1	3	10	<1	2	4
Injury	14	11	24	13	11	24
Maternity	-	-	-	-	13	-
Contraception	-	-	-	-	1	-
Child vaccination	18	-	-	8	<1	-
Dentistry	9	12	4	9	8	2
Other preventative services	7	3	5	7	5	8
Certification services	<1	1	-	-	<1	-
Total	100%	100%	100%	100%	100%	100%
(N)	(281)	(259)	(102)	(285)	(579)	(288)

Table B5 Type of facility visited by location of residence (urban/rural), 2001 and 2004

	Urban		Rural	
	2001	2004	2001	2004
Patient's home	12	14	9	12
FGP (enrolled)	47	53	20	23
FGP (not enrolled)	3	4	2	3
Polyclinic (without FGP)	24	13	21	16
SVA	<1	-	4	4
FAP	<1	<1	19	26
Hospital	9	9	19	10
Private office	2	3	2	3
Maternity home	2	<1	2	1
Other	2	1	2	2
Total	100%	100%	100%	100%

Note: chi-square significant at ($p<0.001$)

Table B6 Type of medical personnel providing care and facility visited by economic status quintile (%)

	2001			2004		
	Poorest 20%	Richest 20%	All	Poorest 20%	Richest 20%	All
Type of medical personnel consulted						
Private doctor	<1	5	2	4	6	4
State doctor	69	70	73	55	69	68
Nurse/midwife	18	5	11	28	12	19
Feldsher	5	4	4	5	2	4
Dentist	5	12	8	8	11	7
Healer	3	1	1	1	1	1
Other (inc pharmacist)	1	3	2	-	<1	<1
Total	100%	100%	100%	100%	100%	100%
Type of facility visited						
Patients home	13	11	11	16	13	13
FGP (enrolled)	16	32	32	24	41	36
FGP (not enrolled)	1	5	2	1	5	3
Polyclinic (without FGP)	18	24	22	15	15	15
SVA	6	-	2	6	-	3
FAP	21	6	11	31	11	16
Hospital	21	13	14	7	8	9
Private office	1	2	2	1	5	3
Maternity home	2	1	2	<1	<1	1
Other	2	5	2	-	2	2
Total	100%	100%	100%	100%	100%	100%

Note: chi-square significant at ($p<0.001$)

Table B7 Average distance health facility is located from Patient's home (km), 2004

	Mean	Median	Minimum	Maximum
Type of facility visited				
FGP (enrolled)	2.6	1.0	0.1	300
FGP (not enrolled)	3.3	2.0	0.1	25
Polyclinic (without FGP)	10.7	3.0	0.1	420
SVA	2.6	2.0	0.3	8
FAP	3.2	1.0	0.1	35
Hospital	23.4	7.0	0.1	420
Private office	19.6	5.0	0.3	500
Maternity home	9.4	8.0	0.6	30
Private pharmacy	0.4	0.3	0.1	2
Other	20.2	10.0	1.0	100
Total	6.7	1.0	0.1	500
Region				
Bishkek	2.1	1.0	0.1	13.0
Issyk-Kul	5.4	0.6	0.1	300
Jalal-Abad	6.4	1.0	0.1	400
Naryn	28.0	0.8	0.1	500
Batken	5.4	1.0	0.1	80
Osh	5.1	2.0	0.1	110
Talas	16.7	1.0	0.1	100
Chui	5.2	2.0	0.1	100
Total	6.7	1.0	0.1	500

Note: ANOVA for between group variation significant at ($p<0.001$)

Table B8 Travel time to health facility (percent), 2004

	Less than half an hour	Less than 1 hour	1-4 hours	More than 4 hours
Type of facility visited				
FGP (enrolled)	84	15	1	-
FGP (not enrolled)	80	12	8	-
Polyclinic (without FGP)	78	15	7	1
SVA	72	12	16	-
FAP	94	6	-	-
Hospital	59	23	15	3
Private office	82	11	4	3
Maternity home	93	8	-	-
Private pharmacy	100	-	-	-
Other	47	34	29	-
Total	81	14	5	1
Region				
Bishkek	84	15	1	-
Issyk-Kul	86	11	3	-
Jalal-Abad	69	23	8	<1
Naryn	60	20	14	6
Batken	71	21	7	1
Osh	93	6	1	-
Talas	68	25	3	4
Chui	80	11	8	1
Total	81	14	5	1

Note: Chi square significant at ($p<0.001$)

Table B9 Average amount spent on travel to health facility by type of facility, 2004

	% paying	Mean amt. paid (soms)	Median amt. paid (soms)
Type of facility visited			
FGP (enrolled)	27	18	10
FGP (not enrolled)	39	35	15
Polyclinic (without FGP)	67	29	15
SVA	11	30	30
FAP	30	17	15
Hospital	58	71	40
Private office	73	50	15
Maternity home	89	72	100
Other	86	52	50
Specialist in FMC	42	50	50
Specialist in private office	76	289	400
Total	41	35	15
Region			
Bishkek	36	18	10
Issyk-Kul	24	24	10
Jalal-Abad	37	31	16
Naryn	49	137	50
Batken	28	53	30
Osh	56	24	15
Talas	43	58	30
Chui	39	41	26
Total	41	35	15

Note: ANOVA for between group variation significant at ($p<0.001$)

Table B10 Average waiting time (minutes) by type of medical personnel providing care and facility visited, 2004

	Mean (minutes)	Median (minutes)	Maximum (minutes)
Type of medical personnel consulted			
Private doctor	20	10	120
State doctor	20	10	240
Nurse/midwife	11	10	120
Feldsher	18	15	180
Dentist	24	15	180
Healer	8	5	40
Total	18	10	240
Type of facility visited			
FGP (enrolled)	21	10	240
FGP (not enrolled)	20	15	240
Polyclinic (without FGP)	20	15	240
SVA	12	10	30
FAP	11	10	60
Hospital	20	10	240
Private office	26	15	240
Maternity home	7	1	20
Other	12	10	40
Specialist in FMC	25	10	45
Specialist in private office	7	1	20
Total	18	10	240

Note: chi-square significant at ($p<0.001$)

Table B11 Percentage reporting paying for a consultation and average payments made, by type of medical personnel providing care and facility visited, 2001 and 2004

	Percent reporting paying for consultation		Mean amt. paid (soms)	Median amt. paid (soms)
	2001	2004	2004	2004
Type of medical personnel consulted				
Private doctor	46	45	132	60
State doctor	17	21	93	30
Nurse	19	12	129	35
Feldsher	33	32	130	200
Midwife	3	22	38	20
Dentist	63	84	203	50
Healer	60	37	114	100
Total	22	27	118	40
Type of facility visited				
Patient's home	19	19	117	30
FGP (enrolled)	10	17	44	25
FGP (not enrolled)	42	41	210	50
Polyclinic (without FGP)	28	45	105	40
SVA	19	30	37	30
FAP	18	21	42	20
Hospital	32	31	179	50
Private office	73	79	325	60
Maternity home	12	14	199	300
Other	49	36	187	100
Specialist in FMC	n/a	58	60	60
Specialist in private office	n/a	76	62	25
Total	22	27	118	40

Note: ANOVA for between group variation significant at ($p<0.001$)

Table B12 Percentage reporting paying for a consultation and average payments made, by region, 2004

	Percent reporting paying for consultation			Mean amt. paid (soms)	Mean amt. paid (soms)
	All	Urban	Rural	Urban	Rural
Issyk-kul	10	13	8	238	84
Jalal-abad	19	23	17	53	36
Naryn	12	14	12	226	132
Batken	14	23	10	32	109
Osh	40	33	42	68	52
Talas	20	40	18	88	59
Chui	40	18	46	80	184
Bishkek	21	21		247	
Total	27	23	29	159	98

Note: ANOVA for between group variation significant at ($p<0.001$)

Table B13 Urban-rural differences in percentage reporting paying for a consultation and average payments made, by type of medical personnel providing care and facility visited, 2004

	Percent reporting paying for consultation		Mean amt. paid (soms)	Mean amt. paid (soms)
	Urban	Rural	Urban	Rural
Type of medical personnel consulted				
Private doctor	51	41	192	80
State doctor	18	24	101	87
Nurse	15	12	352	44
Feldsher	45	27	78	166
Midwife	22	22	88	37
Dentist	72	88	405	150
Healer	43	31		
Total	23	29	159	98
Type of facility visited				
Patient's home	13	23	172	94
FGP (enrolled)	15	18	48	39
FGP (not enrolled)	26	56	531	57
Polyclinic (without FGP)	36	47	181	78
SVA	-	31	-	38
FAP	-	21	-	42
Hospital	30	31	81	230
Private office	91	71	336	316
Maternity home	8	15	-	218
Other	48	31	344	89
Specialist in FMC	100	-	60	-
Specialist in private office	49	100	142	25
Total	23	29	159	98

Note: ANOVA for between group variation significant at ($p<0.001$)

Table B14: Odds ratios of having paid for consultation, amongst all those who applied medical assistance in the last 30 days.

Ref. No acute ill health	1.00
Non limiting acute	1.83 ***
Limiting acute	1.21 ***
Ref. No chronic ill health	1.00
Non limiting chronic	0.54 ***
Limiting chronic	0.71 ***
Ref. 0-4	1.00
5-15	1.08 ***
16-39	1.57 ***
40-59	1.36 ***
60-74	0.92 ***
75+	0.60 ***
Ref. urban	1.00
rural	1.14 ***
Ref. Issyk-Ku	1.00
Jalal-abad	1.84 ***
Naryn	1.32 ***
Batken	1.24 ***
Osh	4.50 ***
Talas	2.16 ***
Chui	5.12 ***
Bishkek	2.19**
Ref. Bottom 20th quintile	1.00
quintile==2	1.71 ***
quintile==3	1.71 ***
quintile==4	1.17 ***
Top 20th quintile	2.40 ***
Ref. Yes, Covered by MHIF	1.00
NO	1.10 ***
Difficult to say	1.08 ***
Ref Exempt	1.00
Not exempt	1.61 ***
Constant	-2.907
Cox R-squared	0.134
Observations	18690

Weighted data using weight2
* significant at p< 0.05; *** p<0.01; *** p < 0.001.

Table B15 Percentage reporting making other payments associated with consultation and average payments made, type of medical personnel providing care and facility visited , 2001 and 2004

	Percent reporting making other payments in relation to a consultation		Mean amt. paid (soms)	Median amt. paid (soms)
	2001	2004	2004	2004
Type of medical personnel consulted				
Private doctor	22	10	80	50
State doctor	42	19	97	50
Nurse	-	19	27	22
Feldsher	83	22	32	20
Midwife	-	13	16	10
Dentist	10	3	49	30
Healer	-	3	100	100
Total	32	17	81	33
Type of facility visited				
Patient's home	20	8	53	45
FGP (enrolled)	28	16	77	27
FGP (not enrolled)	-	14	70	100
Polyclinic (without FGP)	29	19	144	60
SVA	49	13	18	10
FAP	30	18	25	10
Hospital	57	29	102	60
Private office	17	18	93	60
Maternity home	47	11	35	35
Other	-	7	59	50
Specialist in FMC	n/a	42	150	150
Specialist in private office	n/a	52	90	90
Total	32	17	81	33

Note: ANOVA for between group variation significant at ($p<0.001$)

Table B16 Of those with a prescription, percentage reporting that they were able to obtain the prescribed medicines; and amongst those who did not reasons why.

	1994	**2001**	**2004**
Yes, obtained all items	66	77	91
Yes, but only obtained some	23	14	6
None at all obtained	11	9	3
	100%	100%	100%
Amongst those not obtaining all items, reasons why not :			
Could not find	49	11	17
Too expensive	35	61	54
Didn't want them		67	3
Other	72	22	26

Note in 1994, percentages for why medicines were not obtained do not sum to 100% as respondents were allowed to give more than one answer

Table B17 Location where prescriptions were obtained

	2001	2004
From the doctor	15.2	12.7
State Pharmacy	28.6	41.5
Private pharmacy	39.9	37.8
Market/bazaar	15.2	7.5
Other	1.1	0.5
Total	100%	100%

Table B18 Average amount paid for prescriptions by location where it was obtained, 2004

	Mean amt. paid (soms)	Median amt. paid (soms)
From the doctor	260	80
State Pharmacy	252	113
Private pharmacy	258	150
Market/bazaar	225	140
Other	241	200
Total	253	120

Note: ANOVA for between group variation significant at ($p<0.001$)

Table B19 Average amounts paid in relation to consultation with a health professional, amongst *all* who consulted, 2001 and 2004

	travel expenses	consultation	gift for consultation	other payments	other gifts	prescriptions	Total expenditure
2001							
Median (soms)	0	0	0	0	0	25	50
Mean (soms)	13	24	7	9	1	94	148
Item share of total expenditures	9%	16%	5%	6%	<1%	64%	100%
2004							
Median (soms)	0	0	0	0	0	70	0
Mean (soms)	13	31	4	13	1	183	245
Item share of total expenditures	5%	13%	2%	5%	<1%	75%	100%

Table B20 Average amounts paid in relation to consultation with a health professional, amongst who paid for that service, 2001 and 2004

	travel expenses	consultation	gift for consultation	other payments	other gifts	prescriptions	Total expenditure
% paying for item							
2001	31%	21%	3%	32%	2%	58%	77%
2004	36%	27%	2%	17%	1%	72%	88%
Average payment 2001							
Median (soms)	10	30	0	25	40	85	86
Mean (soms)	42	111	7	51	78	163	193
Average payment 2004							
Median (soms)	15	40	100	33	59	130	120
Mean (soms)	35	118	181	81	66	253	276

Table B21 Average total payments in relation to consultation with a health professional by region, type of settlement, and age group, 2001 and 2004

	2001		2004	
	Mean amt. paid (soms)	Median amt. paid (soms)	Mean amt. paid (soms)	Median amt. paid (soms)
Region				
Bishkek	126	50	290	150
Issyk-kul	170	35	207	100
Jalal-Abad	186	90	134	60
Naryn	128	40	264	100
Batken	254	115	291	120
Osh	190	90	241	80
Talas	132	55	229	130
Chui	97	20	297	140
Type of settlement				
Urban	134	50	263	130
Rural	160	50	234	85
Age Group				
Child	99	25	112	30
Working age	190	70	302	135
Pensioner	131	60	333	150

Note: ANOVA for between group variation significant at ($p<0.001$) for all variables

Table B22 Total payment in relation to consultation with a health professional as a percentage of usual monthly household expenditure, by economic status of the household, 2001 and 2004

	Quintile of per capita monthly expenditure					
	Bottom	2	3	4	Top	All
2001						
Mean	10.4	9.8	7.6	7.6	5.2	7.7
Median	6.2	2.3	3.3	2.9	1.7	2.8
Maximum	323	287	96	87	84	323
2004						
Mean	8.3	7.2	6.9	7.5	7.5	7.4
Median	2.6	2.8	3.0	3.4	2.9	2.9
Maximum	299	104	128	233	196	299

Note: Usual monthly household expenditures calculated as the average over the last 12 months.
ANOVA for between group variation significant at ($p<0.001$) for all variables

Table B23 Reasons given for why respondents did not seek medical assistance by quintile of per capita household expenditure (%), 2004

	Bishkek	Issyk-kul	Jalal-Abad	Naryn	Batken	Osh	Talas	Chui
Self-medicated using herbs	12	12	24	1	13		2	12
Self-medicated using pharmaceuticals	63	82	27	61	58	77	92	32
Believed problem would go away	3	6		9	4	20		
Too far/poor service	22		4	19			7	13
Too expensive			**6**	**5**	**13**	**1**		**31**
No time			25		3			6
Other			14	5	9	2		6

Note: chi-square significant at (p<0.001)

Table B24 Reasons given for why respondents did not seek medical assistance by age and gender (%)

	Men			**Women**		
	0-15	16-59	60+	0-15	16-54	55+
Self-medicated using herbs	12	5		15	5	19
Self-medicated using pharmaceuticals	78	64	70	66	47	59
Believed problem would go away		3	1		12	2
Too far//poor service		18			3	3
Too expensive	**9**	**6**	**25**	**20**	**15**	**18**
No time		1			10	
Other		4	4		9	

Note: chi-square significant at (p<0.001)

Table B25 Reasons given for why respondents did not seek medical assistance by quintile of per capita household expenditure (%)

	Poorest 20%	2	3	4	Richest 20%	All
Self-medicated using herbs	11	9	2	17	9	9
Self-medicated using pharmaceuticals	84	57	53	66	55	60
Believed problem would go away		31	<1	1	3	6
Too far/poor service		3	20	1	1	3
Too expensive	**3**	**<1**	**20**	**1**	**21**	**13**
No time						
Other	2		5	3	6	4

Note: chi-square significant at (p<0.001)

C. Hospitalisation

Table C1 Utilization of hospital services in the last year by age and gender, 2001 & 2004.

	Men			Women		
	0-15	16-59	60+	0-15	16-54	55+
2001						
Hospitalised in last year (%)	3.4	4.8	10.6	3.6	10.6	13.3
Amongst those hospitalised:						
Average number of times hospitalised	1.12	1.23	1.44	1.08	1.15	1.17
Average length of stay (days - mean)	13	20	19	16	13	17
Average length of stay (days - median)	10	15	13	12	10	14
2004						
Hospitalised in last year (%)	2.3	3.8	10.2	2.1	9.8	9.0
Amongst those hospitalised:						
Average number of times hospitalised	1.07	1.22	1.19	1.07	1.14	1.25
Average length of stay (days - mean)	13	18	17	12	12	17
Average length of stay (days - median)	10	13	15	10	7	14

Note: chi-square for differences by age significant at ($p<0.001$) for both men and women

Table C2 Utilization of hospital services in the last year by quintile of per capita household expenditure (%), 2001 & 2004.

	Poorest 20%	2	3	4	Richest 20%	All
2001						
Hospitalised in last year (%)	5.2	5.0	6.3	7.8	8.8	6.5
Amongst those hospitalised:						
Average number of times hospitalised	1.17	1.21	1.11	1.15	1.29	1.18
Average length of stay (days - mean)	15	14	16	17	16	15
Average length of stay (days - median)	12	11	12	14	11	12
2004						
Hospitalised in last year (%)	5.1	4.6	5.4	6.8	5.8	5.5
Amongst those hospitalised:						
Average number of times hospitalised	1.14	1.17	1.11	1.17	1.18	1.15
Average length of stay (days - mean)	13	12	13	14	16	14
Average length of stay (days - median)	8	10	10	11	12	10

Note: chi-square significant at ($p<0.001$)

Table C3: Odds ratios for hospitalisation in the last 12 months.

	(1)	(2)	(3)
Ref. No acute ill health	1.00	1.00	1.00
Non limiting acute	1.64 ***	1.56 ***	1.59 ***
Limiting acute	1.95 ***	1.92 ***	1.86 ***
Ref. No chronic ill health	1.00	1.00	1.00
Non limiting chronic	3.09 ***	3.47 ***	3.78 ***
Limiting chronic	6.73 ***	7.38 ***	7.24 ***
Ref. 0-4	1.00	1.00	1.00
5-15	0.51 ***	0.52 ***	0.60 ***
16-39	1.98 ***	2.07 ***	2.29 ***
40-59	1.12 ***	1.20 ***	1.24 ***
60-74	1.31 ***	1.43 ***	1.57 ***
75+	1.11 ***	1.22 ***	1.37 ***
Ref. male	1.00	1.00	1.00
female	1.85 ***	1.87 ***	1.97 ***
Ref. urban		1.00	1.00
rural		1.22 ***	1.20 ***
Ref. Issyk-Ku		1.00	1.00
Jalal-abad		1.16 ***	1.16 ***
Naryn		2.97 ***	2.75 ***
Batken		2.01 ***	2.06 ***
Osh		2.17 ***	2.24 ***
Talas		1.72 ***	1.72 ***
Chui		1.21 ***	1.47 ***
Bishkek		1.48 ***	1.47 ***
Ref. Bottom 20th quintile			1.00
quintile==2			0.89 ***
quintile==3			0.94 ***
quintile==4			1.17 ***
Top 20th quintile			0.87 ***
Constant	-2.875	-4.514	-4.599
Cox R-squared	0.041	0.046	0.047
Observations	20672	20672	18690

Weighted data using weight1 for model (1) and (2) and weight2 for model (3).
* significant at p< 0.05; *** p<0.01; *** p < 0.001.

Table C4 Condition that respondent was hospitalised for, 2004.

	Men			Women		
	0-15	16-59	60+	0-15	16-54	55+
Infectious / parasitic disease	16	9		25	4	1
Tumor	3		2	1	1	2
Diseases of blood & blood producing organs	1	4	2	3	2	4
Endocrine diseases		1	1		1	3
Psychic		2	1		2	1
Nervous system		8	15	5	6	12
Eye	4	1	5		1	8
Ear	5	1	4	5	2	
Circulatory problems		9	17	2	4	18
Respiratory problems	19	11	15	36	6	16
Digestive system	9	18	9	10	6	16
Dermatological problems	5	1	2		1	
Muscular-skeleton	5	3	10	1	4	10
Urogenital	3	9	12	4	7	3
Pregnancy/delivery	1	2		1	51	
Innate anomalies	8	1			1	
Traumas & poisoning	17	17	5	7	2	3
non-exactly diagnosed conditions	3	4		1	1	3
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(N)	(90)	(230)	(80)	(79)	(560)	(149)

Table C5 Type of hospital facility visited and treatment obtained by economic status quintile (%), 2004

	2001		2004	
	Poorest 20%	Richest 20%	Poorest 20%	Richest 20%
Type of facility visited				
SUB	2	2	7	<1
CRH	45	25	31	22
City Hospital	13	28	14	28
Maternity Hospital	26	14	36	11
Oblast Hospital	12	9	11	17
Republican Hospital	3	19	2	21
Private Hospital	-	1	<1	1
Other Govt. Hospital	-	2	-	-
Total	100%	100%	100%	100%
Had surgery	4	16	20	22

Note: chi-square significant at ($p<0.001$)

Table C6 Hospital facility visited by type of referral (%)

	SUB	CRH	City Hosp	Maternity	Oblast Hosp	Repub Hosp	Private
Source of referral							
FGP	45	33	32	25	34	38	4
Polyclinic	<1	22	25	16	19	21	8
FAP	15	18	9	15	16	2	
SVA	29	6	<1	4	3	<1	22
Specialised Polyclinic		2	4	2	2	6	
Self	9	15	14	28	19	19	53
Emergency		4	15	10	5	9	1
Other	2	1	<1	<1	2	5	12
Total	100%	100%	100%	100%	100%	100%	100%

Note: chi-square significant at ($p<0.001$)

Table C7 Proportion of self-referrals to different types of facility, by socio-economic group.

Type of facility visited	Poorest 20%	Next 20%	Middle 20%	Next 20%	Richest 20%	All
% self-referring	19	24	26	18	12	20
Of which referred to :						
SUB	4	3	-	-	3	4
CRH	9	17	44	11	25	28
City Hospital	10	7	12	18	23	18
Maternity Hospital	62	54	25	27	22	26
Oblast Hospital	13	16	12	12	12	13
Republican Hospital	2	2	4	30	9	10
Private Hospital	-	1	4		6	1
Total	100%	100%	100%	100%	100%	100%

Note: Chi-square significant at ($p<0.05$).
Note that proportion of self referred within facility do not necessarily match Table C6 due to missing values on the socio-economic variable and differences in the sample weight variable used. This is most marked for private hospital use, where the cell counts are low.

Table C8 Average distance hospital is located from Patient's home (km), 2004.

	Mean	Median	Minimum	Maximum
Type of facility visited				
SUB	3.4	2	0.5	20
CRH	16.6	10	0.1	380
City Hospital	23.3	6	0.1	420
Maternity Hospital	12.1	7	0.1	375
Oblast Hospital	52.0	20	0.1	690
Republican Hospital	153.4	30	0.1	900
Private Hospital	155.2	12	1.0	500
Total	36.1	8	0.1	900
Region				
Bishkek	4.8	3.0	0.5	50
Issyk-Kul	64.9	20	0.1	550
Jalal-Abad	33.7	6	0.3	690
Naryn	120.8	38	0.1	500
Batken	50.9	8	0.2	890
Osh	24.2	8	0.1	900
Talas	65.4	15	0.3	500
Chui	19.7	15	0.1	140
Total	36.1	8	0.1	900

Note: ANOVA for between group variation significant at ($p<0.001$).

Table C9 Travel time to hospital (percent), 2004

	Less than half an hour	Less than 1 hour	1-4 hours	More than 4 hours
Type of facility visited				
SUB	72	15	13	-
CRH	63	23	11	2
City Hospital	67	19	12	3
Maternity Hospital	78	17	5	-
Oblast Hospital	43	29	22	6
Republican Hospital	29	24	17	31
Private Hospital	26	27	12	34
Total	62	21	12	6
Region				
Bishkek	77	16	7	-
Issyk-Kul	39	26	22	13
Jalal-Abad	55	18	19	9
Naryn	34	28	15	24
Batken	58	18	20	5
Osh	75	18	5	2
Talas	56	21	15	1
Chui	52	31	15	1
Total	62	21	12	6

Note: Chi square significant at (p<0.001)

Table C10 Mode of transport used to get to hospital (percent)

	Ambulance	Own car	Taxi	Public Transport	Walk	Other	Total
Type of facility visited							
SUB		5	16	12	68		100%
CRH	5	7	57	18	13	<1	100%
City Hospital	20	4	27	39	10		100%
Maternity Hospital	14	9	54	14	9	<1	100%
Oblast Hospital	6	13	40	34	6	1	100%
Republican Hospital	13	19	27	41	<1	2	100%
Private Hospital	1		44	46	9		100%
Total	11	9	44	25	11	<1	100%
Region							
Bishkek	36	12	10	33	9	1	100%
Issyk-Kul	6	11	42	19	19	3	100%
Jalal-Abad	6	1	57	25	11		100%
Naryn	5	5	72	7	10	<1	100%
Batken	5	15	40	23	17	1	100%
Osh	3	5	54	28	11	<1	100%
Talas	8	3	52	26	11	1	100%
Chui	10	16	36	27	10	1	100%
Total	11	9	44	25	11	1	100%

Note: Chi square significant at (p<0.001)

Table C11 Proportion reporting services provided by family members by economic status quintile (%), 2001 & 2004.

	2001			2004		
	Poorest 20%	Richest 20%	All Kyrgyzstan	Poorest 20%	Richest 20%	All Kyrgyzstan
Help with:						
Bathing	3	5	5	7	4	4
Toileting	8	17	12	16	12	13
Feeding	10	21	15	15	26	19
Provision of:						
Food	98	93	95	80	75	82
Linen	62	79	74	67	77	69
Medical Supplies	45	34	43	64	66	63
Drugs	73	84	81	65	74	69
Other supplies	53	73	71	62	58	56
Administering:						
Injections	14	3	6	20	19	18
Support during the night	11	19	15	16	11	13
Other medical services	5	9	5	<1	7	3

Note: differences by economic status for all services significant at ($p<0.001$)

Table C12 Proportion paying for services during hospitalisation, with mean (median) values amongst those that have paid, by economic status quintile (%), 2001 & 2004.

	Poorest 20%		Richest 20%		All Kyrgyzstan	
	% paying	Mean (median)	% paying	Mean (median)	% paying	Mean (median)
2001						
Food	98	248 (200)	92	469 (400)	93	372 (300)
Medicines	78	335 (200)	83	795 (360)	83	572 (300)
Other supplies	51	108 (50)	65	175 (100)	67	142 (90)
Hospital charges	36	38 (20)	46	331 (50)	48	156 (30)
Laboratory tests	51	25 (10)	37	116 (50)	55	64 (20)
2004						
Food	80	434 (300)	75	593 (500)	82	498 (350)
Medicines	74	916 (300)	71	1269 (690)	70	867 (450)
Other supplies	58	144 (100)	49	348 (150)	47	220 (100)
Hospital charges	50	413 (200)	69	735 (600)	58	600 (420)
Laboratory tests	36	114 (50)	39	180 (100)	39	123 (70)

Table C13 Proportion of inpatients making a payment/gift to staff during hospitalisation, with mean (median) values amongst those that have paid, by economic status quintile (%), 2004

	Poorest 20%		Richest 20%		All Kyrgyzstan	
	% paying	Mean (median)	% paying	Mean (median)	% paying	Mean (median)
Physician services	10		14		12	
Cash		337 (300)		231 (100)		367 (200)
In-kind		112 (100)		249 (200)		225 (200)
Surgeon	15		15		14	
Cash		753 (500)		832 (500)		986 (500)
In-kind		433 (200)		2412 (1200)		792 (300)
Paediatrician	4		6		6	
Cash		99 (100)		82 (50)		88 (100)
In-kind		167 (200)		208 (200)		148 (100)
Gynaecologist	25		11		19	
Cash		361 (100)		303 (200)		396 (100)
In-kind		147 (100)		146 (100)		147 (150)
Anaesthesiologist	4		11		5	
Cash		-		276 (200)		370 (300)
In-kind		-		-		-
Ancillary staff	19		13		18	
Cash		76 (50)		80 (50)		110 (50)
In-kind		74 (50)		92 (50)		90 (50)
Other payments	17		13		18	
Cash		682 (220)		906 (200)		859 (520)
In-kind		99 (100)		103 (100)		184 (100)

Table C14 Amongst those inpatients who paid, reasons why payments in cash or kind to selected health care staff were made, 2004.

	It was a gift	Person asked for it	Person hinted for it	Difficult to say	Total
Physician services	72	4	11	10	100%
Surgeon	58	26	7	9	100%
Paediatrician	61	12	28	-	100%
Gynaecologist	71	12	12	4	100%
Anaesthesiologist	28	46	5	21	100%
Ancillary staff	78	13	6	3	100%

Table C15 Total payment in relation to hospitalisation (exc food) as a percentage of annual household expenditure, by economic status of the household

	Quintile of per capita monthly expenditure					
	Bottom	2	3	4	Top	All
Mean	4.7	3.1	2.6	3.1	2.6	3.2
Median	1.7	1.9	1.7	1.9	1.8	1.8
Maximum	67	31	37	41	17	67

Note: Yearly household expenditures calculated as the sum over the last 12 months.
ANOVA for between group variation significant at ($p<0.001$) for all variables

Table C16 Average payments in excess of co-payment rates by region.

	Expenditure inc food			Expenditure exc food		
	Mean	Median	Max	Mean	Median	Max
Issyk-Kul	669	10	8,150	**367**	**0**	**6,950**
Jalal-Abad	718	400	8,850	**467**	**0**	**8,250**
Talas	867	275	7,250	**620**	**0**	**5,850**
Batken	968	100	28,530	**334**	**0**	**26,530**
Naryn	1,396	460	31,920	**1,061**	**60**	**29,920**
Bishkek	1,326	810	18,438	**734**	**0**	**16,438**
Chui	1,379	600	13,345	**984**	**30**	**13,245**

Note: The appropriate co-payment rates were calculated taking into account whether the co-payment was for admission with diagnosis and treatment only or for admission with surgery and taking into account the patient's status i.e. exempt, insured, uninsured or without referral.

Table C17 Average payments in excess of co-payment rates by socio-economic group.

	Expenditure inc food			Expenditure exc food		
	Mean	Median	Max	Mean	Median	Max
Poorest 20%	829	0	18,438	**477**	**0**	**16,438**
2	825	0	10,380	**439**	**0**	**6,620**
3	738	340	11,780	**394**	**0**	**10,480**
4	1,267	780	28,530	**836**	**80**	**26,530**
Richest 20%	1,607	966	13,345	**1,020**	**0**	**13,245**

Note: Excludes Osh.

D. Total private spending on health care

Table D1 Components of average and total private payments for health care.

	Mean expenditure per capita (soms)	Total spending on population (population = 503727)
Consultation in the last 30 days		
Expenditure on travel	1.05	5274984
Expenditure consultation	2.61	13152135
Gifts consultation?	.32	1603932
Other payments consultation	1.13	5681394
Other gifts consultation	.05	262198
Expenditure prescription	15.26	76851579
Expenditure other med	12.87	64850460
Hospitalization in the last 12 months		
Exp food	22.70	114356411
Exp medicine	33.03	166394484
Exp other supplies	5.93	29860544
Exp hosp charges	19.19	96685659
Receipt hosp charges	.09	446761
Exp lab tests	2.60	13100079
Exp doctor (cash)	1.80	9070663
Exp doctor (inkind)	.39	1966611
Exp surgeon (cash)	7.36	37072396
Exp surgeon (inkind)	.79	3989560
Exp Ped (cash)	.22	1110781
Exp Ped (inkind)	.08	387720
Exp Obs/Gyn (cash)	2.70	13621876
Exp Obs/Gyn (inkind)	.55	2777660
Exp Anaest (cash)	1.04	5258977
Exp Anaest (inkind)	.06	291984
Exp Ancil (cash)	.86	4318062
Exp Ancil (inkind)	.20	993282
Other (cash)	7.61	38334663
Other (inkind)	.19	936130

Note: These figures are for most recent consultation or inpatient stay.
Average number of consultations amongst those who consulted in last 30 days was 1.42.
Average number of hospital inpatient stays amongst those who had an inpatient stay in the last year was 1.18.

Table D2 Average and total household payments for health care

VARIANT A: Assuming respondents reported expenditures as being all those associated with consultations and inpatient stays	Mean expenditure per capita (soms)	Total spending on population (population = 503727)
Outpatient care (monthly)		
Total monthly spending on primary care	33	167676682
Total monthly spending on primary care excluding travel	32	162401698
Total monthly spending on primary care excluding travel and drugs	4	20699659
Total monthly spending on outpatient drugs	28	141702038
Hospital care (annual)		
Total expenditure on inpatient stay	107	540527541
Total expenditure on inpatient stay exc food	85	426171130
Of which, expenditure on hospital drugs	33	166394484
Total private health care spending		
Annual private exp on health including travel	507	2552647727
Annual private exp on health excluding travel	494	2489347920
Annual private exp on health exc travel and food	**471**	**2374991510**
Of which, annual private spending on drugs	**371**	**1866818945**

VARIANT B: Assuming respondents reported expenditures as only those associated with last consultation and inpatient stay (values for last visit grossed up by actual reported number of visits)	Mean expenditure per capita (soms)	Total spending on population (population = 503727)
Outpatient care (monthly)		
Total monthly spending on primary care	47	236710596
Total monthly spending on primary care excluding travel	45	228240159
Total monthly spending on primary care excluding travel and drugs	8	41690663
Total monthly spending on outpatient drugs	37	186549495
Hospital care (annual)		
Total expenditure on inpatient stay	133	668929083
Total expenditure on inpatient stay exc food	105	527151446
Of which, expenditure on hospital drugs	43	218083778
Total private health care spending		
Annual private exp on health including travel	697	3509456244
Annual private exp on health excluding travel	677	3407810993
Annual private exp on health exc travel and food	**648**	**3266033357**
Of which, annual private spending on drugs	**488**	**2456677729**

VARIANT C: Assuming respondents reported expenditures as only those associated with last consultation and inpatient stay (values for last visit grossed up by average reported number of visits)	Mean expenditure per capita (soms)	Total spending on population (population = 503727)
Outpatient care (monthly)		
Total monthly spending on primary care	42	210863695
Total monthly spending on primary care excluding travel	40	203373218
Total monthly spending on primary care excluding travel and drugs	6	29393517
Total monthly spending on outpatient drugs	35	173979701
Hospital care (annual)		
Total expenditure on inpatient stay	127	637822498
Total expenditure on inpatient stay exc food	100	502881934
Of which, expenditure on hospital drugs	39	196345491
Total private health care spending		
Annual private exp on health including travel	629	3168186846
Annual private exp on health excluding travel	611	3078301121
Annual private exp on health exc travel and food	**584**	**2943360556**
Of which, annual private spending on drugs	**453**	**2284101909**

E. Knowledge and Attitudes regarding the health reforms

Table E1 Proportion that report they are covered by the Mandatory Health insurance Fund (MHIF) by age and gender.

	Men			Women		
	0-15	16-59	60+	0-15	16-54	55+
Yes	82	62	81	82	62	78
No	16	35	17	17	34	19
Difficult to say	2	4	3	1	4	3
Total	100%	100%	100%	100%	100%	100%

Note: chi-square for differences by age for both men and women significant at ($p<0.001$)