



Health Policy Analysis Project “Manas” Policy Research Paper No. 33

Draft for discussion– not for citing

Analysis of MHIF Data Base on Case Treated: Data Validity and Inappropriate Admission Rate

Drafted by Health Policy Analysis Project in conjunction with clinical experts of MHIF, Health Reform Unit, Hospitals Association based on researches implemented in 2004 in Issyk-Kul and Osh oblasts.

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Introduction

There was a rigid system of patient re-referral system in the soviet system of health care delivery. The PHC doctor used to refer a patient to rayon health facility (hospital or polyclinic) wherefrom a patient would have been re-referred to oblast or national facility depending on diagnosis or severity of condition.

However during the post-soviet period the substantial changes took place in the system of referrals and re-referrals owing to changed structure of health care delivery, complete division of health care into primary and secondary care levels without real mechanisms and rules of patient route in the health system as well as legally enforced "rights of individuals for free choice of doctor and health facility". If the implementation of citizens' rights for free choice of doctor became as progressive step forward which laid the basis for building healthy competition among family doctors, whereas the principle of free choice of health facility caused negative impact on entire health care delivery system"¹.

In order to more profoundly review the issues related to refferals and re-referrals the Health Policy Analysis Project has analyzed the MHIF data base on treated cases in in-patient care facilities along with the surveys in two regions (Osh and Issyk-Kul oblasts).

Research Goals

1. To analyze MHIF Data Base on treated cases by types of referrals and admission rate.
2. To compare MHIF Data Base on treated case versus the data in regions for validity purpose.
3. To review the rate of inappropriate admissions.

Research Methodology

The current research conventionally can be split into 2 stages, where at the 1 stage the information has been reviewed and analyzed centrally, and the 2 stage - at the regional level to verify data validity at the central level and identify possible regional features.

The MHIF data base on case treated at hospitals at the level of each health facility is more complete and regularly updated therefore the review of which made the major part of the work at the first stage.

Furthermore this information has been analyzed based on health system organizational structure by levels (Republican-national, cities Osh and Bishkek, oblast, rayon and village levels) as well as exploring such indicators as number of hospitals, number of patients, type of admissions and regional referrals of patients.

In order to carry out the second stage of the research a number of indicators were developed in accordance with the goals and objectives, the information collection matrixes were designed. In the course of the research there were changes made to matrix in regions due to objective reasons (impossibility of obtaining the data in view of their lack or losses, limited time for information collection, and so on). The main indicators are:

- % of conformity of CF number 066/U in hospital to number of CF 066/U in the MHIF data base by types of referrals;

¹ T. Meimanaliev. The Kyrgyz Health Model, Bishkek, 2003

- % of conformity of hospital patient card number (case history) to number of CF 066/U in hospital;
- % of inappropriate referrals from FGP, FMC, ODD to hospitals.

Research Stages

I stage. Analysis of MHIF Database On Case Treated

During the first stage of the current research the MHIF database on treated case in hospitals for the years 2001 to 2003 was used as the baseline information. The Table 1 shows the information on the number of hospitals, covered by the mandatory health insurance system as for each oblast split by levels of health care delivery (republican facilities, oblast merged hospitals, rayon territorial hospitals, rural district hospitals).

Table 1. Number of Hospitals under MHIF System by Regions ¹

	Republican Facilities	Bishkek	Osh	Chui oblast	Issyk-Kul oblast	Naryn oblast	Talas oblast	Osh oblast	Jalalabat oblast	Batken oblast	Total
2001											
Republican level	6										6
Oblast level ²		5	1	1	1	2	2	2	1	1	16
Rayon level				10	7	5	4	8	14	4	52
Village level				2	1	2		3		2	10
Total:	6	5	1	13	9	9	6	13	15	7	84
2002											
Republican level	6										6
Oblast level ²		5	1	1	1	2	2	2	1	1	16
Rayon level				9	7	5	4	8	14	4	51
Village level				2	1	2		2		2	9
Total:	6	5	1	12	9	9	6	12	15	7	82
2003											
Republican level	10										10
Oblast level ²		8	1	1	1	1	2	2	1	2	19
Rayon level				9	7	4	4	10	16	5	55
Village level				2	1			1	5	2	11
Total:	10	8	1	12	9	5	6	13	22	9	95

¹ MHIF data (excluding intra-sectoral and private hospitals)

² including Bishkek and Osh cities hospitals

Thus, in 2001 there were 84 hospitals under MHIF system, in 2002– 82, in 2003 – 95, which makes 41.0 %, 59.4 % and 78.5 % accordingly from the overall number of hospitals in the Kyrgyz Republic except for TB, psychiatric, narcology hospitals and dispensaries. Whereas the increased rate of hospitals under MHIF system took place not only owing to their increased engagement in MHIF system but also due to in-patient service restructuring processes. In the result of such process the total number of hospitals reduced from 205 in 2001 down to 121 in 2003 (excluding some specialized hospitals and dispensaries).

Over the above said period the number of patients admitted to hospitals under MHIF system decreased from 540 855 patients in 2001 down to 529 427 patients in 2003. The Table 2 shows the data on the number of patients admitted to hospitals under MHIF system by each oblast for the period of 2001 to 2003.

Table 2. The Number of Patients Admitted to Hospitals under MHIF¹ System for In-Patient Care

	Republican Facilities	Bishkek (excl. maternity homes)	Osh	Chui oblast	Issyk-Kul oblast	Naryn oblast	Talas oblast	Osh oblast	Jalalabat oblast	Batken oblast	Total
2001	72586	43707	15841	75655	42520	29352	24479	96408	92811	47496	540855
2002	75522	41847	15713	71789	43093	22239	17857	104796	80640	38985	512481
2003²	73802	40115	16684	76341	39180	24649	19206	117442	78996	43012	529427

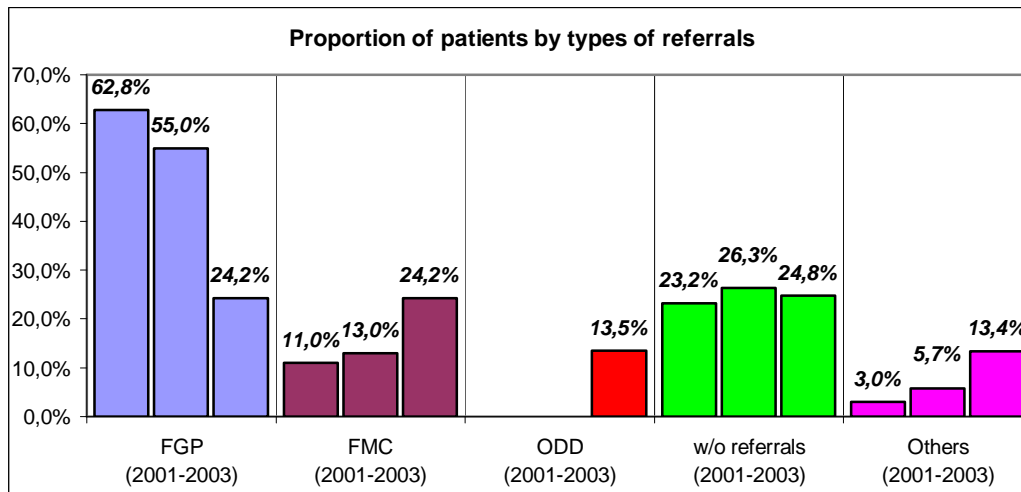
¹ MHIF data

² It shows absolute figures on the number of admitted patients excluding newborn

There is overall trend of insignificant decrease both in number of admitted patients in 2003 versus 2001 across the country except for Osh oblast where there is substantial rise of absolute number of admitted patients (by 21034 patients).

The analysis of patients admission trend by types of referrals (Diagram 1) revealed substantial changes in the structure of health care delivery where since 2001 there is a discerning decrease of patients referred by FGP owing to patients referred by ODD and rise of patients referred by sub-specialists of FMC, emergency care services, and other health facilities.

Diagram 1.



Furthermore, it is worth noting that proportion of patients referred by FGP for admission at national level, in the cities Osh and Bishkek - decreased more than tenfold, at oblast and rayon levels – less than 3 times (Table 3), and a proportion of patients referred by FMC and ODD at each of levels rose by 2 and more times.

Table 3. Incidence of Patients by Types of Referrals by Levels of Health Care Delivery

	<i>Republican (National) level</i>				<i>Oblast level</i>		
	<i>2001</i>	<i>2002</i>	<i>2003</i>		<i>2001</i>	<i>2002</i>	<i>2003</i>
FGP	72,4%	52,4%	2,7%	FGP	60,6%	53,2%	22,2%
FMC	11,9%	27,7%	25,8%	FMC	6,3%	6,6%	22,2%
ODD	0,0%	0,0%	41,5%	ODD	0,0%	0,0%	9,3%
W/o referrals	15,6%	15,8%	12,4%	W/o referrals	30,1%	35,1%	36,0%
Others	0,0%	4,1%	17,6%	Others	3,0%	5,2%	10,3%

	<i>Bishkek city</i>				<i>Rayon level</i>		
	<i>2001</i>	<i>2002</i>	<i>2003</i>		<i>2001</i>	<i>2002</i>	<i>2003</i>
FGP	54,7%	40,9%	3,3%	FGP	62,2%	58,5%	34,7%
FMC	23,7%	28,4%	34,0%	FMC	10,9%	9,5%	22,7%
ODD	0,0%	0,0%	18,5%	ODD	0,0%	0,0%	7,9%
W/o referrals	21,6%	23,1%	17,4%	W/o referrals	22,6%	25,6%	23,4%
Others	0,0%	7,6%	26,8%	Others	4,4%	6,3%	11,3%

	<i>Osh city</i>				<i>Village level</i>		
	<i>2001</i>	<i>2002</i>	<i>2003</i>		<i>2001</i>	<i>2002</i>	<i>2003</i>
FGP	62,1%	56,9%	6,0%	FGP	71,5%	57,1%	38,1%
FMC	11,1%	11,4%	38,0%	FMC	1,0%	0,5%	14,3%
ODD	0,0%	0,0%	3,9%	ODD	0,0%	0,0%	2,4%
W/o referrals	26,9%	31,7%	35,4%	W/o referrals	22,0%	31,3%	30,9%
Others	0,0%	0,0%	16,6%	Others	5,5%	11,1%	14,2%

Assumption on decreased incidence of patients referred by FGP for admission:

1. The major proportion of patients requiring admission do not seek care at FGP but go straight to sub-specialists at FMC or ODD under the hospital (either to hospital which admits through ODD);
2. The ODD sub-specialists are entitled to refer patients for admission;
3. Invalid registration of patients by types of referrals, i.e. prior to issued order authorizing admission through ODD they tend to be registered as referred by FGP (issuing a referral after the admission);
4. The specialists of hospitals of republican level, cities Osh and Bishkek are highly trusted among the population compared to PHC specialists which can be verified by more than tenfold decrease of patients referred by FGP and rise of patients referred by FMC and ODD levels of health care delivery.
5. The increased incidence of patients referred by other health care facilities (primarily by emergency care services).

The analysis of patients admitted without referrals resulted in an interesting picture. There is a discerning decrease of treated cases without referrals at national level and in Bishkek whereas at other levels of health care delivery there is a rise of patients admitted without referrals. However, this category of patients need to be addressed depending on the type of admission— acute or routine. Apparently it is appropriate to assume that acute admission can be not only through health facility (e.g. emergency care service) but a patient also can seek care at hospital independently. In view of this to identify the real number of admitted patients without referrals (i.e. avoiding the primary health care delivery level) we estimated the incidence of self-referred from the total amount of routine admissions.

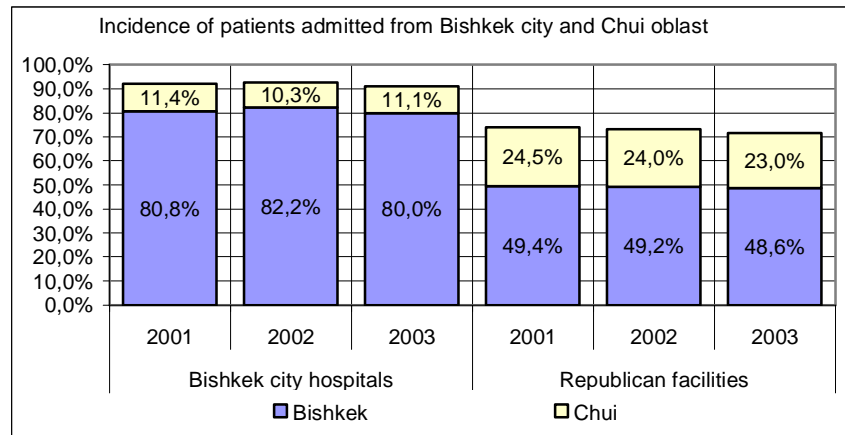
The proportion of patients admitted without referrals from the total amount of routine admissions made:

	2001	2002	2003
Republican level		0,4	0,9
Oblast level	13,7	12,9	15,6
Rayon level	7,5	9,2	3,9

In the course of analysis of MHIF Database on treated case the referrals trend among regional patients was also explored versus the higher level of health care delivery. This indicated that virtually all hospitals across the regions in the country deliver health care to indigenous people in their own regions (more than 80 % of admitted patients).

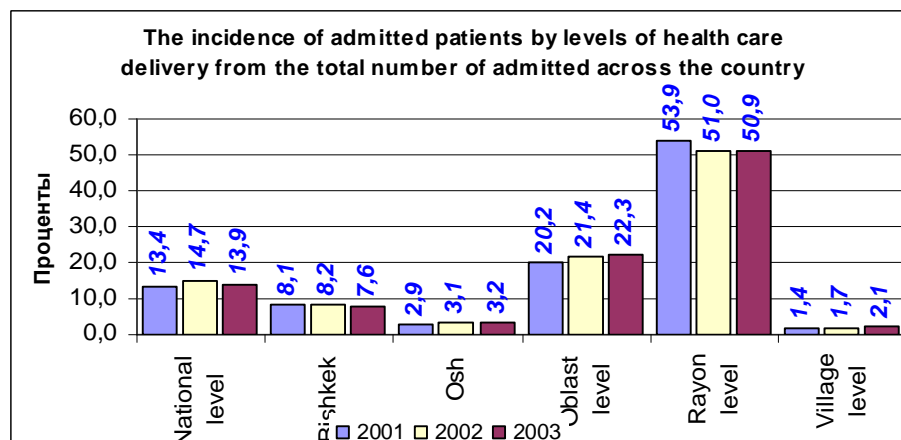
It is worth noting separately that the republican health facilities and Bishkek city hospitals working under MHIF deliver care mainly to residents of Bishkek and Chui oblast (Diagram 2).

Diagram 2.



On the whole across the country the incidence of admitted patients by levels of health care delivery from the total amount of admitted across the country is represented in Diagram 3. It shows that the major part of the Kyrgyz Republic population tended to seek care at rayon level (53,9 % from the total amount of patients which received in-patient care in 2001; 51,0 % in 2002 and 50,9 % in 2003).

Diagram 3.



The main conclusions of the research first stage:

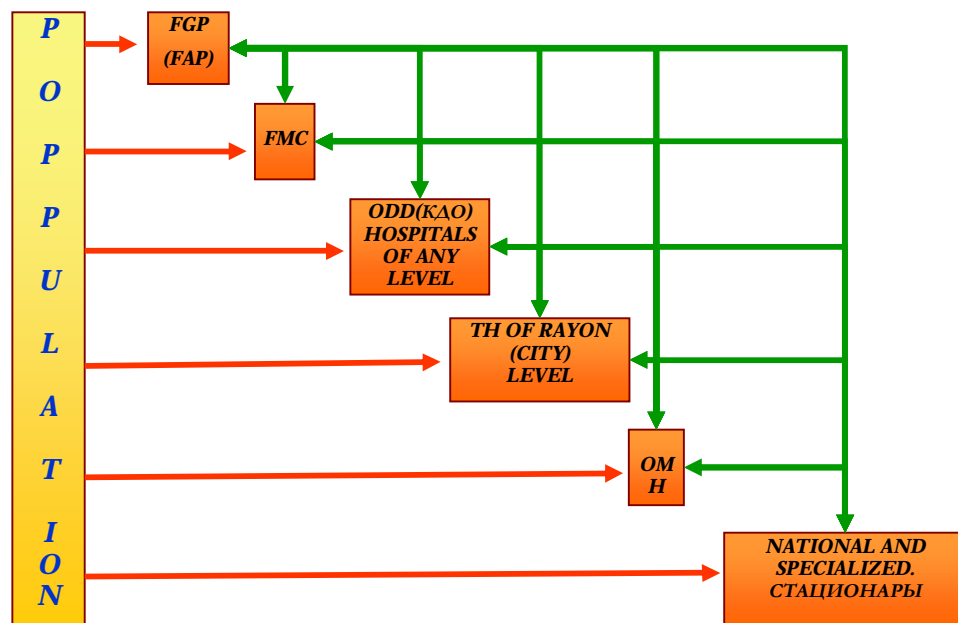
1. The number of hospitals covered by MHIF system rose from 84 in 2001 up to 95 in 2003 (along with concurrent reduction of overall number of hospitals of the KR from 205 in 2001 down to 121 in 2003, except for specialized hospitals and dispensaries).
2. There is a discerning decrease of admitted patients from 540 855 patients in 2001 down to 529 427 patients in 2003, which made 11,0 % and 10,6 % from the average annual size of permanent residents of the Kyrgyz Republic accordingly..
3. There is a discerning decrease of patients referred by FGP owing to patients referred by ODD and rise of admission level from FMC, emergency care services and other health facilities.
4. The incidence of patients without referrals at all hospitals under MHIF system over years 2001 to 2003 made 23,2 % - 26,3 %. The proportion of self-referred from the total amount of routine admissions made at the republican level – from 0,4 – 0,9 %, at oblast level – 12,9 – 15,6 %, at rayon level – 3,9 – 9,2 %.
5. All hospitals across the regions of the country deliver health care mainly to indigenous residents of the regions.
6. The major part of the Kyrgyz Republic population was delivered in-patient care at rayon level (53,9 % from the total amount of patients received in-patient care in , 2001; 51,0 % in 2002 and 50,9 % in 2003).

II stage. Issyk-Kul and Osh Oblasts Research Findings

In order to attain the goals and address the objectives of the research second stage we have analyzed the information at primary and secondary health care facilities in Issyk-Kul oblast (Karakol city, Jety-Oguz and Ak-Soo rayons) and Osh oblast (Osh city, Nookat and Karakuldja rayons).

The overall chart of patients' route typical to regions under review as well as across the country is shown below:

Chart 1.



Pursuant to the chart the population currently is entitled to seek health care at any level of health care delivery starting with FGP (FAP) and ending up with hospitals of republican (national) level and specialized hospitals (red colour arrows). Furthermore, at

each level of health care delivery there is an opportunity of re-referring the patient to higher levels and conversely (green colour arrows).

Primary Health Care Delivery

The primary health care level at oblast level is represented by oblast Family Medicine Centres which comprises a management unit, a medical information units, treatment and advisory departments (narrow specialists), diagnostic departments and FGP network.

Oblast Level

Based on data at the end of 2004 there are 7 FGPs, 4 of them are under FMC and the other 3 are independent legal entities in the city of Karakol (Issyk-Kul oblast), which were enrolled 68 691 people in 2003, 69 796 people in 2004.

In the city of Osh 7 FMCs deliver primary health care to population, they have a network of 40 FGPs and serviced the enrolled population of 250 112 people in 2003, and 277 129 people in 2004.

Table 4.

Karakol FGP performance	Visits			Number of referred for admissions		Number of referred for consultation to sub-specialists	
	Total	Including those with disease	%	Absolute.	%	Absolute.	%
I Quarter of 2003	44 903	14293	31,8%	382	2,7%	1373	9,6%
I Quarter of 2004	38437	14523	37,8%	296	2,0%	841	5,8%
Osh city FGP performance	Visits			Number of referred for admissions		Number of referred for consultation to sub-specialists	
	Total	Including those with disease	%	Absolute.	%	Absolute.	%
I Quarter of 2003	119237	44178	37,1%	1093	2,5%	3865	8,7%
I Quarter of 2004	131016	46872	35,8%	2495	5,3%	2950	6,3%

Both in the city of Karakol (Issyk-Kul oblast) and in the city of Osh (Osh oblast) the number of visits because of disease in the I quarter of 2004 versus the I quarter of 2003 remained unchanged, though the proportion versus the total number of visits varies. Thus, in the city of Karakol the rate of visits because of disease tended to rise (from 31,8 % in I quarter of 2003 up to 37,8 % in the I quarter of 2004) due to significant fall of the overall amount of visits, whereas in the city of Osh there is a discerning drop of visits because of disease (from 37,1 % in the I quarter of 2003 down to 35,8 % in the I quarter of 2004) due to rise of total number of visits.

Furthermore, there are different trends in terms of proportion of patients referred for admission. In the city of Karakol –the drop from 2,7 % down to 2,0 %, whereas in the city of Osh – the rise from 2,5 % up to 5,3 %.

There is a discerning decline of indicators by number of patients referred for consultation to narrow specialists both in Osh and Karakol.

Rayon Level

There 6 and 10 FGPs in Aksoo and Jety-Oguz rayons of Issyk-Kul oblast under survey which service 55731 and 72 968 people accordingly.

There are 3 FMCs In Nookat and Karakuldja rayons of Osh oblast. FMCs «Baryn» and «Medigos» (Nookat rayon) which comprised 10 and 11 FGPs accordingly and serviced the population of 205 206 people, and FMC of Karakuldja rayon having 17 FGPs delivered health care to 84 150 people in 2003 and 84264 people in 2004 .

Table 5.

Issyk-Kul oblast	Visits			Number of referred for admission		Number of referred for consultation to sub-specialists	
	Total	Incl. Those with diseases	%	Absolute.	%	Absolute	%
Jety-Oguz rayon							
I quarter of 2003	61568	33371	54,2%	782	2,3%	249	0,7%
I quarter of 2004	63880	31195	48,8%	608	1,9%	271	0,9%
Ak-Soo rayon							
I quarter of 2003	28905	-		292		159	
I quarter of 2004	24511	-		266		204	
Osh oblast	Visits			Number of referred for admission		Number of referred for consultation to sub-specialists	
	Total	Incl. with disease	%	Absolute.	%	Absolute.	%
Karakuldja rayon							
I quarter of 2003	21016	10956	52,1%	534	4,9%	260	2,4%
I quarter of 2004	19525	7428	38,0%	502	6,8%	302	4,1%
Nookat rayon, FMC "Medigos"							
I quarter of 2003	60470	15623	25,8%	1526	9,8%	1021	6,5%
I quarter of 2004	35354	9431	26,7%	915	9,7%	1027	10,9%
Nookat rayon, FMC "Baryn"							
I quarter of 2003	38599	15098	39,1%	546	3,6%	409	2,7%
I quarter of 2004	36163	11489	31,8%	421	3,7%	570	5,0%

There is a discerning reduction of visits rate by disease at rayon level virtually at all surveyed FGPs, furthermore, the absolute number of patients referred for admission dropped though there are slight changes in terms of proportion to number of visits by disease.

There is a discerning insignificant increase of patents referred for consultation to narrow specialists at all surveyed FGPs.

In the course of the research, by words of FGP doctors, it was revealed that there is incomplete registration of patients by types of referrals (for admission or narrow specialist consultation), there are cases of referring patients to higher level health facilities without registering at FGP, issuing referrals during the time of patient residing

at hospital, there is no unified form of registration of patients by types of referrals, lack or shortage of official blanks of referrals for consultation or admission.

Secondary Health Care Delivery

The in-patient care service in regions under survey is represented by oblast merged hospitals– at oblast level, territorial hospitals at the level of rayons and cities. The structure of all in-patient care facilities at oblast and rayon levels basically is homogenous and consists of administrative-logistical unit (management, HR, planning and economic departments, accounting dpt., and so on), outpatient diagnostic department (ODD) and treatment units.

In order to more profoundly explore the data at oblast and rayon levels in selected oblasts there were 4 territorial hospitals of rayon level, 1 territorial city hospital and 2 oblast merged hospitals were selected.

In order to identify the conformity of quantity and information (a) in hospital charts of patient and CF 066/U, (б) CF 066/U in the hospital and CF 066/U in MHIF database and (в) in order to identify the share of inappropriate admissions there were 11 212 hospital cards of patients explored in 2 oblast merged hospitals, 1 626 hospital patient card in 1 city TH and 9 030 hospital patient cards in 4 TH, as well as 11 313 CF 066/U in 2 oblast merged hospitals, 1 543 CF 066/U in 1 city TH, 9 276 CF 066/U in 4 TH.

Furthermore, to identify the validity rate of information available in MHIF database on treated cases all CF 066/U were explored in all clinical units of selected hospitals, hospital patient cards (case history) in main clinical units, under which we qualified:

a) at oblast level

- internal medicine unit (gastro -enteric);
- Infectious diseases unit;
- Cardiology unit;
- Neurology unit;
- Surgery unit;
- Urology unit;
- Traumatology unit.

б) at rayon level

- Internal medicine unit (gastro -enteric);
- Infectious diseases unit;
- Children unit;
- Surgery unit;
- Obstetrics unit;
- Gynecology unit;
- Neurology unit;
- Traumatology unit.

The analysis of conformity of the number of CF 066/U in hospitals with the number of CF 066/U in MHIF data base (Table 6) indicated sufficiently high rate of quantitative validity of information in the database.

Table 6.

Oblast merged hospitals + Osh city territorial hospital (TH)			
	CF 066/U in hospital	CF 066/U in MHIF data base	% of inconformity
I quarter of 2003	10722	10812	0,8 %
II quarter of 2004	12330	12270	0,5 %
Oblast merged hospitals			
	CF 066/U in hospital	CF 066/U in MHIF data base	% of inconformity
I quarter of 2003	9168	9141	0,3 %
II quarter of 2004	9584	8874	8,0 %
Rayon territorial hospitals			
	CF 066/U in hospital	CF 066/U in MHIF data base	% of inconformity
I quarter of 2003	5753	5843	2,5 %
II quarter of 2004	6832	6570	4,0 %

The rate of inconformity of CF 066/U in hospital and in MHIF DB at the level of merged oblast hospital (MOH) in the I quarter of 2003 and 2004, made 0.3 % и 8.0 % accordingly, at the rayon level for the same period made 2.5 % and 4.0 %. However such a low rate is quite possible owing to certain technical errors while filling out CF 066/U in hospitals, either due to inconformity to quality assessment standards, or to the fact that the patient's hospital cards (case history) together with CF 066/U are kept with the management of hospital, units, academic staff and in rare cases due to losses. . Below is the table containing the information on the rate of quantitative inconformity of hospital patient's card (case history) to CF 066/U in hospitals (Table 7).

Table 7.

Oblast merged hospitals + Osh city territorial hospital (TH)			
	Case history in hospital	CF 066/U in hospital	% of inconformity
I quarter of 2003	5948	5962	0,2 %
II quarter of 2004	6889	6894	0,1 %
Oblast merged hospitals			
	Case history in hospital	CF 066/U in hospital	% of inconformity
I quarter of 2003	5461	5511	0,9 %
II quarter of 2004	5750	5802	0,9 %
Rayon territorial hospitals			
	Case history in hospital	CF 066/U in hospital	% of inconformity
I quarter of 2003	4478	4600	2,7 %
II quarter of 2004	4535	4620	1,8 %

However, notwithstanding the high rate of quantitative validity of overall information provided by hospitals and registered in MHIF database there are certain discrepancies in data validity by all types of referrals.

This is, first of all, owing to errors made while filling out the cover page of hospital patient cards (case history) in admission units of hospitals.

The examples of such errors may be:

- The lack of records on patient's type of referral;

- The record on FGP referral while lacking the FGP referral ;
- Recording the name of doctor in the referral column which hampers identification of referral type;
- Recording ODD or FMC referral while referred by FGP and conversely;

Secondly, there are errors made while filling out CF 066/U in hospitals, owing to insufficient accountability of doctors. Thus, in the column on type of referral there are either several indications are recorded at once (ODD, FMC, FGP, etc.), or no indication at all.

The analysis of data on types of referrals from FGP, FMC, and ODD indicates that both at oblast and rayon levels there is a discerning rise of referrals for admission in the I quarter of 2004 versus the I quarter of 2003 (Table 8).

Table 8.

Oblast merged hospitals + Osh city territorial hospital (TH)			
	Number of treated cases	Referred by FGP, FMC and ODD	%
I quarter of 2003	6496	3219	49,6%
II quarter of 2003	7098	4297	60,5%
Oblast merged hospitals			
	Number of treated cases	Referred by FGP, FMC and ODD	%
I quarter of 2003	5462	2835	51,9%
II quarter of 2003	5750	3522	61,3%
Rayon territorial hospitals			
	Number of treated cases	Referred by FGP, FMC and ODD	%
I quarter of 2003	4741	3384	71,4%
II quarter of 2003	4498	3465	77,0%

If to consider the number of admitted patients by each type of referral then the following situation can be observed (Table 9):

Table 9.

Oblast merged hospitals + Osh city territorial hospital (TH)							
	Number of treated cases	Referred by FGP	%	Referred by FMC	%	Referred by ODD	%
I quarter of 2003	6496	2173	33,5%	147	2,3%	899	13,8%
II quarter of 2004	7098	3393	47,8%	159	2,2%	745	10,5%
Oblast merged hospitals							
	Number of treated cases	Referred by FGP	%	Referred by FMC	%	Referred by ODD	%
I quarter of 2003	5462	1984	36,3%	14	0,3%	837	15,3%
II quarter of 2004	5750	2814	48,9%	27	0,5%	681	11,8%
Rayon territorial hospitals							
	Number of treated cases	Referred by FGP	%	Referred by FMC	%	Referred by ODD	%
I quarter of 2003	4741	2560	54,0%	261	5,5%	563	11,9%
II quarter of 2004	4498	2453	54,5%	180	4,0%	832	18,5%

The tables indicate that the rate of admitted patients referred by FGP both at oblast and rayon levels is going up and makes around or more than 50 %, the rate of patients

admitted based on FMCs referrals remains unchanged, whereas the rate of patients referred by ODD at oblast level is going down, at rayon level is going up.

The rate of inappropriate cases from the total amount of referred by FGP, FMC and ODD makes more than 30 % (Table 10).

Table 10.

<i>Oblast merged hospitals + Osh city territorial hospital (TH)</i>			
	<i>Referred by FGP, FMC, ODD</i>	<i>Inappropriate cases</i>	<i>%</i>
<i>I quarter of 2003</i>	<i>3219</i>	<i>1382</i>	<i>42,9%</i>
<i>I quarter of 2004</i>	<i>4297</i>	<i>1410</i>	<i>32,8%</i>
<i>Oblast merged hospitals</i>			
	<i>Referred by FGP, FMC, ODD</i>	<i>Inappropriate cases</i>	<i>%</i>
<i>I quarter of 2003</i>	<i>2835</i>	<i>1193</i>	<i>42,1%</i>
<i>II quarter of 2004</i>	<i>3522</i>	<i>1100</i>	<i>31,2%</i>
<i>Rayon territorial hospitals</i>			
	<i>Referred by FGP, FMC, ODD</i>	<i>Inappropriate cases</i>	<i>%</i>
<i>I quarter of 2003</i>	<i>2004</i>	<i>691</i>	<i>34,5%</i>
<i>I quarter of 2004</i>	<i>1958</i>	<i>593</i>	<i>30,3%</i>

Furthermore there is a discerning decline of inappropriate admissions rate both at oblast and rayon levels.

The prevalent diseases among inappropriate admissions cases are patients with internal diseases admitted to neurology, cardiology and gastro-enteric units.

The main reasons behind inappropriate admission cases are:

- The population preference to receive health care at hospitals;
- The availability of incentives at hospitals to increase the number of admissions owing to the case treated based funding;
- Insufficient motivation of PHC staff to expand the delivered services;
- Lack of clear criteria for patient admission.

The conclusions of the research second stage:

1. With regards to PHC service at oblast level there is the discerning decrease of patients' rate referred for admission in the Karakol city and increase of such indicator in Osh city, however there are insufficient changes of indicators at rayon level. Furthermore the rate of patients referred for consultation to narrow specialist at oblast level is declining, whereas at rayon level – going up.
2. There is insufficient record keeping and registration of patients at PHC level by types of referrals for admission/consultation. .
3. MHIF data base provides valid quantitative information. The rate of unconformity of the number of hospital patient cards (case history) to CF 066/U in hospital on the average equals to 1.5 % in the I quarter of 2003 and 1.0 % in the I quarter of 2004, and KCΦ 086/Y in hospital and CF 066/U in MHIF DB – 1.2 % in the I quarter of 2003 and 2.2 % in the I quarter of 2004. However it needs to ensure the information validity by types of referrals.

4. According to data obtained during the survey at oblast and rayon levels the incidence of admitted patients referred by FGP both at oblast and rayon levels is rising and makes nearly or more than 50 %, the incidence of patients referred by ODD is declining at oblast level and increasing at rayon level.
5. The analysis of number of cases referred by FGP to FMC and ODD and from FMC to ODD is deemed as impossible owing either to lack of complete records of this information or due to lost CIFs at outpatient level.
6. The rate of inappropriate cases from the total amount of referred by FGP, FMC and ODD for admission makes more than 30 %. The internal diseases are prevalent among inappropriate cases.

Conclusions

1. MHIF data base provides valid quantitative information. The rate of unconformity of the number of hospital patient cards (case history) to CF 066/U in hospital on the average equals to 1.5 % in the I quarter of 2003 and 1.0 % in the I quarter of 2004, and КСФ 086/У in hospital and CF 066/U in MHIF DB – 1.2 % in the I quarter of 2003 and 2.2 % in the I quarter of 2004. However it needs to ensure the information validity by types of referrals.
2. There is insufficient record keeping and registration of patients by types of referrals for admission/ consultation. The analysis of number of cases referred by FGP to FMC and from FMC to ODD is deemed as impossible owing either to lack of complete records of this information or due to lost CIFs at outpatient level.
3. Insufficient record keeping and registration of data do not allow clearly interpret the data by referrals for admission and consultation to narrow specialists.
4. The incidence of inappropriate admissions from the total amount of referred by FGP, FMC and ODD for admission is substantial and makes more than 30 %. The internal diseases prevail among inappropriate cases.

Recommendations

1. To strengthen the control over timeliness and validity of filling out the statistical information in hospital patient cards in admission units of hospitals and enhance the accountability of doctors while filling out CF 066/U by all types of referrals.
2. To enhance the importance of patients registration by types of referrals and regional trends through bringing into conformity the recording and reporting documentation at primary level which will increase the validity of information on the patients flows.
3. To develop mechanisms on introducing financial incentives for the population in order to encourage them to seek care at primary level.
4. To develop clear criteria of referrals to higher levels of health care delivery and indications for admission by levels of in-patient care.
5. To increase motivation of PHC specialists to improve quality of services through introducing financial incentives, further development of clinical protocols and upgrading the retraining programs.
6. To upgrade the in-patient care service funding system through introducing contracts with the funding institution for delivery of certain scope of services (number of treated cases) of health care over certain period of time with concurrent upgrading of intra-organizational quality control system.