Policy Research Paper #75

Situational analysis of hospital substituting facilities in Family Medical Centers (HSF FMC)

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Abbreviations

AP MHI	additional program of the mandatory health insurance for the provision of medicines at the out-patient level
HD	hypertension disease
GFP	group of family practitioners
MH KR	Ministry of Health of the Kyrgyz Republic
LD	legal documents
INN	international nonproprietary name
SBP	State Benefit Package
PHC	primary health care
RMIC	Republican medical and information centre
CVDs	cardio vascular diseases
HSF FMC	hospital substituting facilities of a Family medical centre
MAs	medicinal agents
CG/CPs	clinical guidelines/clinical protocols
MHIF	Mandatory Health Insurance Fund
COLDs	chronic obstructive lung diseases
FMC	family medical centre
GMPC	general medical practice centre
GU	gastric ulcer

1. Introduction

The health system saw fundamental reforms in the recent decades, which are characterized by a wide application of economic management methods, expansion of independency of managers of health organizations and increased responsibilities of the professionals for the ultimate results and quality of treatment.

One of the tasks of the reform program is to reduce costs and ensure rational distribution of financial resources. With this aim in mind the majority of medical services were transferred to the primary health care level having resulted into up to 37% increase in the PHC financing.

One of the activities intended to reduce the costs, improve the PHC level, and optimize the number of beds was to establish hospital substituting facilities in Family medical centers (HSF FMC). These facilities were set up on the basis of Order #617 of the MH KR as of November 16, 2006 “Optimizing the provision of individual medical services”.

A hospital substituting facility – it is the provision of daily in-patient care in family medical centers that provide treatment and preventive services.

HSF FMC were set up to provide treatment and rehabilitation services to the patients who do not require round the clock medical observation and treatment and also for the patients transferred or discharged from a 24-hour in-patient facility in need of a subsequent treatment. According to the approved regulations these facilities should admit patients with acute and chronic conditions that do not require all day long observation and treatment but who require treatment and diagnostic assistance during day time.

According to the RMIC, in 2009 the Republic had 391 beds under HSF FMC. The biggest amount of beds was reported in Bishkek, namely 168, in Jalal-Abad 157, in Batken 26, in Osh 8 and in Issyk Kul 7. Out of them the majority of 134 was of the therapeutic orientation; total number of beds for adults was 95; total number of children’s beds was 60; surgical beds for adults – 6; gynecological – 24; neurological beds for adults – 52; pediatric – 4; other beds for adults – 9; other beds for children – 7.

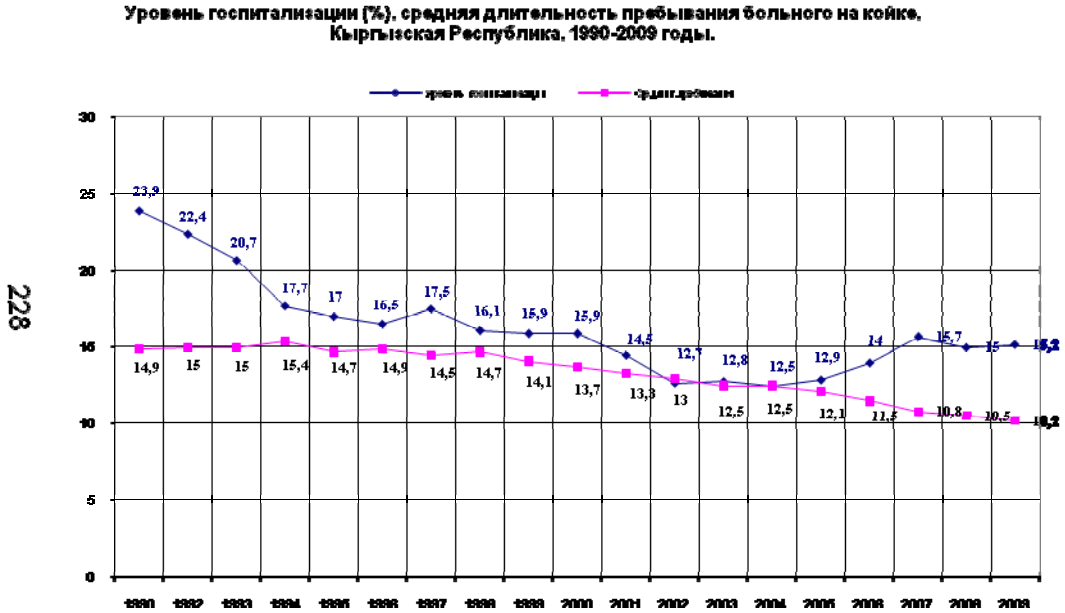
21290 patients were admitted to HSF FMC over 2009 with the average of 5,7 days in HSF. The bed is occupied during 309 days a year with the hospitalization level in HSF FMC being 3,9 per 1000 of population. These figures speak for the fact of quite a high demand in the HSF FMC services.

Given the current increase in the number of hospitalizations that has been observed over recent years (Fig.1), the functioning of HSF FMC is a good practice to reduce load on the general hospital system with the 24-hour stay by means of admitting patients that do not require immediate and urgent hospital services to HSF of family medical centers.

Figure 1

Hospitalization (%), the average bed occupancy in the Kyrgyz Republic, 1990 – 2009

Legends: blue line - hospitalization; rose line - average bed occupancy



However, there has not been any analysis made of the economic effectiveness, volume, and the quality of services provided by HSF and other activities performed by HSF FMC.

In connection with the abovementioned it is necessary to hold a situational analysis of the HSF FMC in part of their economic effectiveness and contribution to reducing the number of unjustified hospitalizations for non-complicated conditions to general hospitals with the aim to ensure a rational use of beds.

2. Goal and objectives of the research

Goal:

Hold a situational analysis of hospital substituting facilities under FMCs with the aim to evaluate expediency of their operations and subsequent development of normative and legal basis that would regulate the activities of these facilities.

Objectives:

1. Evaluate types and quantities of medical and non-medical services provided by HSF of FMC;

2. Evaluate funding for the HSF FMC activities;

3. Evaluate a degree HSF FMC are equipped with medical equipment and qualified personnel;

4. Study opinions of the population serviced by HSF FMC;

5. Evaluate performance and future reasons for the HSF FMC to continue their activities.

3. Structure of the research

In order to achieve the goal and objectives of the research project the following main research directions were identified:

1. Study the organizational structure of hospital substituting facilities of FMCs and pertinent normative and legal basis:
   - study the number of available HSF FMC in the regions under research;
   - analyze the normative and legal documents that form the basis for HSF FMC operations.
2. Analysis of the human resource capacities:
   - staffing schedule;
   - normative work loads for doctors and calculation of KTU.
3. Analysis by main indicators:
   - volumes and types of rendered medical services;
   - number of patients referred to HSF FMC;
   - utilization of beds (occupancy and turnover of beds);
   - composition of patients and the diseases that are being referred to HSF FMC;
   - reasoning for such referrals;
   - geographical coverage;
   - number of patients treated by HSF FMC and referred to a hospital.
4. Study of financial efficacy (expenditures, procurement of medicinal agents and medical items).
5. Materials and technical equipment of HSF FMC.
6. It is supposed to study opinions of population about the accessibility of medical assistance using the PCA methodological tools (tools for collecting, synthesizing and analyzing information through involving the public).
7. The study of opinions of medical staff is planned to be done by means of semi-structured interviews.

4. Research methodology

1. Statistical method (analysis of medical documentation and reporting forms on the basis of the developed questionnaire).
2. Semi-structured discussions with the FMC managers and staff of HSF FMC with the view to learn about their opinions about the expediency of HSF FMC functioning, their performance and problems that require solutions.
3. Interviews of patients in order to identify their opinions about the HSF services, find out their expectations, get their opinions about physical accessibility, achievements of the required disease outcomes, and affordability (costs associated with treatment by HSF FMC).

4. Study and analysis of the material and technical facilities of HSF FMC, human resource capacities, etc. on the basis of the developed matrix.

5. Aiming at collecting data the research tools were developed and tested in family medical centre #8 located in Bishkek.

5. Methodology for choosing HSF FMC to be subjected to the research

In the course of discussions it was decided that HSF FMC were to be selected on the basis of the following priorities:

1. Region;

2. *Number of beds and their utilization;*

3. *Number of the serviced population.*

#	Name
1.	FMC #1 in Bishkek
2.	FMC #5
3.	FMC #6
4.	FMC #8
5.	FMC #15
6.	FMC #18
7.	FMC in Jalal-Abad
8.	Health care centre in Mailu Suu town
9.	FMC in Suzak Raion
10.	FMC in Balykchy town, Issyk-Kul Oblast
11.	FMC in Karakol town, Issyk-Kul Oblst
12.	FMC in Aksui Raion, Issyk-Kul Oblast

6. Research findings:

6.1. General information

According to RIMC in 2009 the number of beds in HSF of FMC comprised 391 which is 1,5% of total beds with the number of treated patients being 22 thousand or 0,7 per 10 thousand of population.

Analysis of information shows that all hospital substituting facilities of FMCs are multi-field. The biggest number of beds in the Republic is of therapeutic orientation (34,2%) and general beds for adults (24,2%). The third place is taken by general beds for children (15,3%), and there are also pediatric beds. It is noteworthy that the official classification of bed profiles in HSF FMC is missing from the available approved regulations and the existing distinction across bed profiles is a mere formality. This was reconfirmed during the visits to these facilities as despite of the statistics saying that the facilities have beds of different profiles, in fact there is no such profiling of beds in HSFs.

The performance analysis of beds in HSFs of FMC in 2009 manifests a demand for this type of medical services for the population. The utilization of beds in HSF FMC

in 2009 made up 309,2 which is a high indicator as compared to the utilization of beds in general hospitals where people stay 24 hours a day, where the established norm for the bed utilization is set at 340 days a year. This is connected to the fact that HSF FMC work in 2 or 3 shifts and the capacity of one bed is to serve several people during a day. As such, in comparison to the hospital level the bed turnover in HSF FMC is 1,8 times higher.

Table 1

Utilization of beds in day-time hospitals of FMCs
The Kyrgyz Republic, 2009 *(Information from FMC reporting form #12)*

Bed profile	Beds	Admitted patients	Bed days	Beds per 10000	Average stay	Bed utilization	Bed turnover	Hospitalization level per 1000
Total	391	21921	120902	0.7	5.7	309.2	56.06	3.9
Therapeutic	134	9476	63066	0.2	6.7	470.0	86.9	1.8
General use for adults	95	6972	24432	0.2	3.5	257.2	49.7	1.3
General use for children	60	1412	5109	0.1	3.6	85.2	16.2	0.3
Surgical	6	450	1270	00	2.8	211.7	75.2	0.1
Gynecological	24	658	6947	00	10.5	289.5	27.5	0.1
Neurological	52	1503	18094	0.1	12.1	348.0	28.7	0.3
Pediatric	4	126	318	00	2.5	79.5	31.5	00
Others for adults	9	469	1304	00	2.8	144.9	52.1	0.1
Others for children	7	225	362	00	1.6	51.7	32.1	00

At the present moment there are 19 family medical centers in Bishkek that provide primary health care with 12 out of them having opened hospital substituting facilities where they have 168 beds to be used by these day time hospitals of FMC. The biggest number of beds in day-time hospitals registered in Bishkek is of the therapeutic orientation (52%), third part (30%) is neurological, 13% - gynecological, and 5% - surgical beds. In 2010 there were 9017 patients treated with the majority being therapeutic and neurological patients (6440 and 1503 patients correspondingly). The average stay of one patient on the bed of a day-time hospital of FMC is 8,7 days with the longest stay being noted for neurological beds (12,1). Bishkek, as compared to other regions of the country that also have HSF, observes the highest level of hospitalizations, namely 10,7 per 1000 (See Table 2).

Table 2

Use of beds in day-time hospitals of FMC
Bishkek, 2009, *(Information from FMC reporting form #12)*

Bed profile	Beds	Admitted patients	Bed days	Average stay	Use of bed	Bed turn over	Beds standing idle per 1000	Hospitalization level per 1000
Total	168	9017	78586	8.7	467.8	53.6	-1.9	10.7
Therapeutic	88	6440	52414	8.1	595.6	73.2	-3.2	7.7
Surgical	6	450	1270	2.8	211.7	75.2	2	0.5
Gynecological	22	624	6808	10.9	309.5	28.5	1.9	0.7
Neurological	52	1503	18094	12.1	348	28.7	0.6	1.8

There are 16 beds in Issyk-Kul Oblast, 10 in Karakol and 6 in Balykchi. According to the reporting form the beds are classified into therapeutic and psychiatric only. However, during visits to these facilities there had not been any bed profiles identified: these beds were used by all admitted patients, including neurological, surgical, and gynecological use. The beds in the wards are only classified as male and female.

Table 3

Use of beds in FMC day time hospital
Issyk-Kul Oblast, 2010 *(Information from FMC reporting form #12)*

Bed profile	Beds	Admitted patients	Bed days	Average stay	Use of bed	Bed turn over	Beds standing idle per 1000	Hospitalization level per 1000
Total	16	1122	4023	3,6	309,5	69,9	0,6	2,6
Therapeutic	13	525	2278	4,3	227,8	40,3	2,6	1,2
Psychiatric	3	597	1745	2,9	581,7	198, 3	-1,1	1,4

Table 4

Use of beds in FMC day time hospital
Jalal-Abad Oblast, 2009 *(Information from FMC reporting form #12)*

There is the total of 156 beds set up in the day-time hospital of FMC in Jalal-Abad. As per the reporting form the beds are broken down into 96 adult and 60 children's beds.

Beds	Beds	Admitted patients	Bed days	Average stay	Use of bed	Bed turn over	Beds standing idle per 1000	Hospitalization level per 1000
Total	156	9595	36579	3,8	234,5	61,5	2,1	9,6
Adults	96	7956	31608	4,0	329,3	82,9	0,4	7,1
Children	60	1639	4971	3,0	82,9	27,3	10,3	1,6

6.2. Infrastructure of HSF FMC in the regions under research

Aiming at studying the issues under research one visited 6 FMCs in Bishkek where there are functional HSFs (FMC ##1, 5, 6, 8, 15, 18). All of the HSFs are physically located in the FMC buildings. In FMC #5 the HSF occupies a separate floor while in other FMCs the hospital substituting facilities are situated in the FMC or in a separate part of it. All wards are equipped with beds, pertinent soft materials with the quartz lamps available in some of the wards. All of the visited HSFs of FMCs in Bishkek have a separate room for medical procedures with the relevant equipment: tables, cabinets, stands for infusions, banquettes. All HSFs also have separate offices for doctors. As regards medicines, all hospital substituting facilities possess the required anti-shock therapy sets only.

Table 5

Features of HSFs in FMCs of Bishkek

№	FMC	Number of beds	Number of working offices and size	Notes
1.	FMC #1	5	- 2 wards (for men and for women); - 1 staff lounge; - 1 medical procedure room.	HSF located in the FMC building, HSF working in 2 shifts.
2.	FMC # 5	24	- 4 wards of 22 beds (general square of 90м²); - 1 service ward for 2 beds, S-25м²; - 3 doctors' offices (head of HSF – cardiologist, neuropathology doctor, gynecologist); - 1 medical procedure room.	HSF is located in the FMC building on a separate floor working in 2-3 shifts. There are 10 beds of therapeutic use, 7 – neurological and 7 gynecological beds.
3.	FMC # 6	14	- 2 wards (men, women) of S=70м²; - 1 room for medical procedures of S=15м²; - 2 doctors' offices of S=24м².	HSF is located in the FMC building; 7 beds of therapeutic use and 7 neurological use beds working in 2 shifts.
4.	FMC # 8	10	- 3 wards of general square of 60м²; - 1 staff lounge of S=16м²; - 1 medical procedure room of S=12м².	HSF is located in the FMC building, 9 therapeutic beds, 1 neurological bed. The HSF works in 2 shifts.
5.	FMC # 15	7	- 2 wards (men, women) of S=40м; - 1 medical procedure room; - patient admission office.	HSF opened in March 2010, located in the FMC building in a separate wing of it, 3 shifts.
6.	FMC #18	8	- 2 wards (men, women) of total S=32м²; - 1 doctor's office of S=12м²; - 1 medical procedure room of S=12м².	HSF is located in the FMC building, 2 shifts.

In Issyk-Kul Oblast there are 16 beds in HSF of FMCs, including 10 beds in Karakol town and 6 beds in Balykchi town. In June it is planned to set up 18 beds in Ak-Suu Raion. At the present moment there are repair works of 6-bed wards under three GFPs, and the wards are located in the GFP building.

In April 2009 HSF of Karakol was moved to a separate building that was put on the balance sheet of the FMC (in the past the building belonged to the Oblast hospital). The total square of the building is about 200м² located in 10-15 minutes of walking

distance from the main FMC building.

The facility has 3 wards designed for 10 beds. The facility also has a physiotherapeutic room, a separate medical procedure room, medical staff lounge and a kitchen. The condition of the facility is satisfactory. There had been a cosmetic repair done and on the moment of the research there were some other repair works in progress to set up one more ward of 2 beds.

The wards are equipped with beds, relevant soft materials, and quartz lamps.

The physiotherapeutic room is equipped with machines for the following types of electrical treatment: UHF short wave diathermy, SMT amplipulse therapy; electrophoresis (galvanization with medicinal agents), magnet therapy.

The medical procedure room is equipped with a dry-air sterilizer and steam sterilizer. Out of medicines there is an anti-shock therapy set, systems, syringes, spiritus, and absorbent cotton. The patients admitted to the beds of the day-time hospital are provided with syringes and systems that are procured by the FMC administration.

In Balykchi town the HSF is located within the FMC building, there is 1 ward designed for 6 beds of the total square of 30м². The beds are separated from each other by panel screens with 3 beds in each section – men's and women's. A corner of the ward is equipped as a medical procedure room that is also separated by the panel screen. There is a separate office for the HSF's doctor.

Table 6

Features of HSFs in FMCs in Issyk-Kul Oblst

№	Name of facility	Beds	Number of rooms and size in square meters	Notes
1.	FMC in Karakol	10	- 3 wards (general square of S=90м²); - 1 physiotherapy room (S=20м²); - 1 procedure room (S=15м²); - 1 medical staff lounge (S=15м²); - 1 kitchen (S=20м²).	Located in a separate building, repairs underway to set up an additional ward designed for 2 beds.
2.	FMC in Balykchi town	6	-1 ward for 6 beds (S=30м²), zones are separated by panel screens by 3 beds (men and women); - 1 doctor's office (S =6м²).	Located in the FMC building, there is an equipped medical procedure room separated by the panel screen.
3.	FMC in Ak Suu Raion GFP in Kidibaevo GFP in Boz Uchuk GFP in Ak Suu	 6 6 6		At the present moment these wards do not function, the repair works are underway with the beds and soft materials having been purchased. The wards are scheduled to start operating by June1, 2011.

During the research-related trip to Jalal-Abad Oblast the visits were paid to 2 family medicine centers in Jalal-Abad town, Suzak Raion, and 1 medical assistance centre in Mailu Suu Raion, where there are functioning HSFs. In Jalal-Abad there are 21 beds in the HSF FMC. 6 GFPs have from 2 to 5 beds. Daily wards of 20-25м² equipped with beds and relevant soft materials are located in the GFP building. There is no separate medical procedure room for the HSF, the GFP procedure room is being used instead.

Table 7

Features of HSFs in FMCs in Jalal-Abad Oblast

№	Name of organization	Beds	Number of rooms and size in square meters	Notes
1.	***FMC in Jalal-Abad town***		Each GFP has 1 ward with the average size of them being 20-25м².	All HSF wards are located in the GFP building. While there is no separate medical procedure room in HSF, the GFP procedure room is being used.
	Total:	***21***		
	GFP #1	5		
	GFP #2	4		
	GFP #3	3		
	GFP #4	4		
	GFP #5	2		
	GFP #7	3		
2.	***Medical Assistance Centre in Mailu Suu town***		Each GFP has 1 ward with the average size of them being 15-20м².	All HSF wards are located in the GFP building. Inside the ward there is a medical nurse table where all preparations for intramuscular and intravenous injections are being made.
	Total:	***18***		
	GFP #1	4		
	GFP #2	2		
	GFP #3	4		
	GFP #4	4		
	GFP #5	4		
3.	***Suzak Raion FMC #1***		Each GFP has 1 ward with the average size of them being 15-20м².	All HSF wards are located in the GFP building. Inside the ward there is a medical nurse table where all preparations for intramuscular and intravenous injections are being made.
	Total:	***30***		
	GFP #1	6		
	GFP #6	1		
	GFP #7	5		
	GFP #8	3		
	GFP #9	1		
	GFP #10	3		
	GFP #12	3		
	GFP #13	4		
	GFP #14	2		
	GFP #17	2		

	FMC #2 ***Total:*** GFP #1 GFP #2 GFP #3 GFP #4 GFP #5 GFP #6 GFP #7	 ***20*** 3 3 3 3 3 3 2	Each GFP has 1 ward with the average size of them being 15-20м².	All HSF wards are located in the GFP building. While there is no separate medical procedure room in HSF, the GFP procedure room is being used.

6.3.Morbidity structure when patients are hospitalized to HSF

HSF FMC mostly treat people of the pension age, patients with chronic diseases, and female patients with obstetric and gynecological illnesses.

When analyzing data received in Bishkek the following was found out: patients with neurological illnesses find their way to the beds of the day-time hospital most frequently (19,5%) followed by the other type of patients with disorders of the blood circulatory system. There are also frequent hospitalizations of gynecological patents and pregnant women with complications (10,7%). Neurological diseases are represented by vegetative vascular dystonia, neurodynia, radiculitis, and side effects of craniocerebral injuries. Out of circulatory system diseases the most common ones are hypertension and coronary disease (stenocardia and postinfarction cardiosclerosis) (Fig.2).

Figure 2

Morbidity structure in HSF FMC, Bishkek city, %

19.5% diseases of the nervous system; 15.4% diseases of the blood circulatory system; 13.3% other diseases; 10.1% child birth, complicated pregnancies, gynicological diseases; 8.5% diseases of the digestive tract.

When observing a similar situation in Jalal-Abad Oblast one can note a change in the morbidity pattern. The biggest number of patients hopitalized in HSF FMC are the patients with respiratory diseases (26,3%), represented by cases of acute respiratory infections, complicated bronchitis, and pneumonia. The second place is taken by blood diseases (14,3%), namely the iron deficiency anemia. The third place is taken by neurological pathologies (13,7%) (Fig. 3).

Figure 3

Morbidity structure (in %) in HSF FMC of Jalal-Abad Oblast: 26.3% diseases of the respiratory tract; 14.3% blood diseases; 13.7% diseases of the nervous system; 8.1% circulatory system diseases, 8% diseases of eyes and appendages.

In case of Issyk-Kul Oblast it was possible to collect the similar data only for Karakol town where the HSF FMC kept the required reporting that helped trace the picture (Figure 4). No data of this sort were collected in Balykchi town.

Figure 4

Morbidity structure (in %) in HSF FMC in Karakol: 26.9% diseases of the blood circulatory system; 25% diseases of the endocrine system, 17.5% diseases of the nervous system; 15.6% diseases of the respiratory tract; 9.4% diseases of the musculoskeletal system.

As such, the circulatory system diseases are the most prevalent in Karakol (together with hypertension and stenocardia) followed by the diseases of the endocrine system (hypothyroidism associated with the deficiency of iron, and sugar diabetes), and the diseases of the nervous system (17,5%).

6.4. Financing and payment procedures in HSF FMC

Payment for the HSF services in Bishkek is done based on the price list for the chargeable services as approved by the Director of Bishkek Health Department and agreed with the KR National Agency on anti-monopoly policy and development of competition or Bishkek city unit of the State anti-monopoly agency under the KR Government. The price list for daily patients in HSF of Karakol and Balykchi, Issyk-Kul Oblast, approved by the Director of the Oblast FMC and agreed with the Issyk-Kul and Naryn unit of the State anti-monopoly agency under the KR Government. The gained proceeds are deposited on the special account.

As per the approved provisions on hospital substituting facilities under family medicine centers, the funds received according to the price list for occupying a daily bed, shall be spent in line with the special funds distribution plan that is approved by the established procedure, to pay out additional remuneration with relevant contributions to the Social Fund of the KR, including for the administrative and support staff, with the account of KTU and covering all expenditures connected to the provision of paid services.

In general, the funds received by FMC from the provision of HSF services comprise less than 1% of the consolidated budget. FMC do not separately register expenditures associated with the HSF services with the payment received for this type of medical service being used for the overall needs of the institution.

Positive aspects of the HSF functioning include the reduced expenses for patients as the HSF services cost much less than co-payment for hospitalization.

HSF FMC of Jalal-Abad Oblast do not have an approved price list for the patients in the day-time hospital. According to the managers of FMCs under research, HSF's services are free. However, the same managers note that they are aware of some facts when a medical nurse in charge of injections gets monetary bonuses from patients that are in the range of 20-50 som per each procedure.

Table 8

Cost of wards in HSF FMC according to the approved price lists (som)

#	Organization	Price for staying in the day-time ward (1 bed/day)
1.	FMC #1, Bishkek	84,0 som
2.	FMC #5, Bishkek	38,0 som (ordinary ward) 100 som – (special service ward)
3.	FMC #6, Bishkek for insured citizens (50%)	63,0 som 31,5 som
4.	FMC #8, Bishkek	55,0 som
5.	FMC #15, Bishkek	39,0 som
6.	FMC #18, Bishkek	62,0 som
7.	FMC, Karakol, Issyk-Kul Oblast	68,0 som
8.	FMC, Balykchi, Issyk-Kul Oblast	36,0 som

6.5. Legal basis

On November 16, 2006 the KR Ministry of Health issued Order #617 "On optimizing the provision of individual medical services" which served the basis for approving a standard provision on hospital substituting facilities (wards) in the family medical centers of Bishkek city.

This provision sets the structure, staffing, and financial sources for these facilities.

Based on the aforementioned Order BTU MHIF issued internal Order #201 as of August 29, 2006 approving the standard provision "On hospital substituting facilities under FMCs of Bishkek city".

All studied FMCs in Bishkek have the sample provision "On hospital substituting wards" as approved by FMC Directors upon agreement with the BTU MHIF Director. These provisions describe evidence for hospitalization to therapeutic, neurological, and gynecological day-time wards (See Annex 1).

Operations of HSF in Issyk-Kul Oblast (towns of Karakol and Balykchi) are regulated by Order #33 as of May 30, 2008 "On approving the provision on hospital substituting wards under FMC" registered by the Issyk-Kul Oblast Justice Department as #13 as of June 18, 2008.

Jalal-Abad Oblast does not have the approved provisions about the operations of HSF FMC. HSFs in the Oblast were set up on the basis of KR MH Order #160 as of May 23, 2000 that approves the regulations "On day-time in-patient facility in the out-patient institution".

6.6. Referral and admittance procedure in HSF FMC

Patients are referred to the HSFs by GFP and specializing FMC doctors (cardiologists, neurologists, gynecologists and others) who supervise the examined

patients (90%). Some patients are admitted to HSF from regular hospitals after the completion of intensive care and correction of urgent conditions (6%). Moreover, HSFs admit patients who were examined by private clinics and referred by the specialists of these institutions (4%). Regional HSFs admit patients arriving with discharge summaries after hospitalization on the tertiary level from Bishkek and Oblast hospitals to carry on their treatment.

In Bishkek the referrals to HSFs are signed by GFP Head and FMC Deputy Director in charge of clinical care. The decision to admit a patient to the hospital substituting ward is made by the HSF Head.

In regions (Jalal-Abad and Issyk-Kul Oblasts) there is no special procedure for referring to HSF; it is the matter of a patient coming directly to HSF with the medical record or treatment prescription sheet.

In Bishkek and Issyk-Kul Oblast the paid receipt for staying in HSF is the basis for admittance. The payment is done to the FMC cashier office according to the price list depending on the amount of bed/days.

6.7. Registration of patients and reporting in HSF FMC

A patients' journal registers the HSF patients with the mentioning of names, diagnosis, number of paid bed/days, and lists of prescribed medications. Some HSF open a medical hospital card following the format for the regular hospital (№092/У) which mentions examination results, necessary procedures and where prescriptions are also made (HSF FMC in Bishkek ##5, 6,15,18, HSF FMC in Karakol). Some HSF FMC keep all relevant records in the patient's medical record with a medical nurse keeping the prescription list that is glued into the medical record (HSF FMC #1 and #8 in Bishkek, HSF FMC in Jalal-Abad Oblast and HSF FMC in Balykchi).

Upon discharge of patients from HSF there is a detailed discharge summary issued and attached to the medical record, and the patient receives the discharge letter from the medical card of the established format (#027-y). The discharge letter is signed by the HSF doctor and FMC Deputy Director in charge of clinical work. In those cases when the treatment is followed in the medical card, then a list of received procedures is glued herein with the discharge letter given to the patient if need be.

Information about the number of beds in the day-time hospital and the turnover of patients is included with the FMC report as per form 12-1, which contains information about the number of treated patients, the length of their treatment and also about the number of beds and their profile.

6.8. Procedures for examinations and treatment of patients in HSF FMC

Duration of treatment of a patient in HSF FMC is determined by the actual number of treatment days starting from the first day and finishing on the last day spent in the day-time hospital. Weekends and holidays are not included in the total number of treatment days. Most often the patients receive HSF treatment of 5 to 10 days in duration.

Given the schedule of HSF work (from 8.00 to 18.00), the patients are received in 2 or 3 shifts meaning that one patient stays in bed not in excess of 3-4 hours. During

visits to these facilities it was found out that patients attend the day-time hospital based on the principle “first come – first served”. Patients who were prescribed intravenous infusions have to wait in the line until a bed is vacated, while the patients receiving intramuscular injections get them after waiting in line without any occupancy of beds. Therefore, it is necessary to hold a study of patients receiving services in day-time hospitals from the point of view of evidence to get treatment in such like facilities. As it is not required to occupy the bed for those receiving injections may indicate that this patient does not need to be in HSF. However, his placement in HSF FMC may indicate purely organizational difficulties associated with the out-patient treatment (it is hard to arrange daily medical examination; there are long lines to the procedure room; lack of possibility to have rest after medical procedures and so on). In order to resolve these problems it might have been sufficient to set up equipped procedure rooms with banquettes for patients receiving intravenous infusions and drips, together with a room for rest with a nurse overlooking the condition of those resting after injections.

Prescriptions for the patients admitted to HSF of FMC ## 5, 6, 18 in Bishkek are done by HSF doctors. In HSF FMC #15 the patients come with prescriptions from family doctors or narrow specialists with the HSF doctors only executing the prescribed treatment.

In Issyk-Kul Oblast the treatment of patients hospitalized to HSF is also prescribed by GFP doctors and narrow specialists, however, the HSF doctor may adjust the prescribed treatment if need arises.

In Jalal-Abad Oblast the prescriptions to the patients admitted to HSF are produced only by GFP doctors and narrow specialists (there is no HSF doctor on the staffing list of all GFP) that refer patients upon the results of out-patient examination and regular monitoring. In order words family practitioners that referred a patient to HSF are keeping the patients’ record. On one hand this ensures continuity in patent’s treatment both on the out-patient level and during the stay in the day-time hospital, thus, helping to control treatment outcomes more effectively. On the other hand all FMCs expressed an opinion that the absence of a HSF doctor on the staffing list represents an additional workload for them as they always have to interrupt their work in order to make their rounds and check the condition of patients in the day-time ward.

Most of the time patients arrive to HSFs holding all necessary laboratory test results. While staying in HSF the doctors may, if a need arises, direct the patients to have additional or control laboratory tests.

The provision with medicinal agents and medical goods (syringes, systems for intravenous infusions) is done at the expense of patients themselves, except for HSF in Karakol where the patients are given syringes and systems (with the cost of syringes and systems being included into the cost of the bed/day).

Treatment is most frequently ends with the discharge or in case of worsening of the condition patients are sent to a regular hospital.

The analysis of operations of HSF FMC under research points out to the fact that their activities are mostly concentrated around medicinal therapy in terms of intramuscular and intravenous infusions of medicines. These institutions are not

oriented to medical examinations, active treatment and other clinical interventions (remedial gymnastics, physiotherapy, massage and other).

At the same time we believe tat it is necessary to carry out an expert analysis of patients treated in HSF from the point of view of necessity to treat them by injecting medicines. This matter requires a careful expert study as one has to consider that population is still subjected to the opinion of a high effectiveness of medicines through injections. In this case it is necessary to clearly define on the basis of which standards (CP of the KR) the patients get treated in this type of facilities (primary or secondary levels). Some of the HSF doctors note that they prescribe treatment on the basis of CP for the secondary level.

Moreover, it should be defined to which extent the existing HSF FMC are ready to provide emergency assistance to the patient in case of a complication (anaphylactic shock, bleeding, etc.).

6.9. Analysis of human resource capacities of researched HSF FMC

The biggest number of approved staff members in HSF FMC is registered in Bishkek including doctors and medium medical staff.
FMC #1 – 1 staff member - doctor (general practitioner);
FMC #5 – 3 doctors (cardiologist, neurologist, gynecologist);
FMC # 6 – 2 doctors (cardiologist, neurologist);
FMC # 8 – 2 doctors (general practitioner, neurologist);
FMC # 15 - 1 doctor (general practitioner);
FMC # 18 – 1 doctor (general practitioner).

In Issyk-Kul Oblast in the town of Balykchi there is one approved position of the HSF FMC doctor same as in Karakol there is one position of HSF FMC cardiologist who is also in charge of HSF FMC manager functions. The same doctor is also a part time FMC cardiologist.

In Jalal-Abad Oblast there are no approved staff members in the HSF FMC. Prescriptions and monitoring of HSF FMC patients are carried out by GFP doctors.

The majority of HSF doctors are of the highest class: 6 doctors in Bishkek, 2 doctors in Issyk-Kul. 10 out of 14 medical nurses that work in HSF in Bishkek have the highest class.

Only 7 HSF FMC doctors in Bishkek have taken the specialization upgrade training in a relevant field over recent 5 years. The majority of medical nurses working in HSF have also taken specialization courses over recent 5 years.

Table 9

Characteristics of medical staff in HSF FMC, abs.

Oblast	Number of full time doctors	Specialization over recent 5 years, doctors	Number of doctors of the highest class	Number of full time staff units, medical nurses	Specialization over recent 5 years, medical nurses	Number of nurses of the highest class
Bishkek (FMC ##1, 5, 6, 8, 15, 18)	10	7	6	14	9	10
Issyk-Kul Oblast	2	-	2	3	2	1
Jalal-Abad Oblast	-	-	-	2	-	–

7. Findings from interviewing the patients

7.1. Demographic portrait of respondents

The total of 152 patients receiving treatment for various diseases in hospital substituting facilities of FMCs were interviewed in the selected regions and institutions.

The purpose of the interview was to find out opinions of the population about the access to medical assistance in hospital substituting facilities under family medical centers. Patients were interviewed at the moment of their procedures or shortly after.

The majority of interviewed patients, namely the ones receiving treatment in HSF FMC at the moment of the research were women - 76% while men comprised 24% as presented in Figure 5 in absolute numbers (the blue bar of 116 are women and the rose bar of 36 are men).

Figure 5

The average age of respondents was 55 years of age. As demonstrated by the results of the interviews, the able bodied persons from 31 to 60 years of age, which is

62.5% of the total number of interviewed patients, are using medical services provided by hospital substituting facilities of FMC more often. There were two respondents under 20 years (1%). 12% of respondents were in the age range from 20 to 30 years of age, 13% - from 31 to 40 years, 22.5% - from 41 to 50. Patients from 51 to 60 years comprised 27%, and the ones in the age range from 61 to 70 made up 15%. In the age group older than 70 there were 9.5% of the total number of the interviewed patients. See a visual of the structure of respondents by age in % in Figure 6.

Figure 6

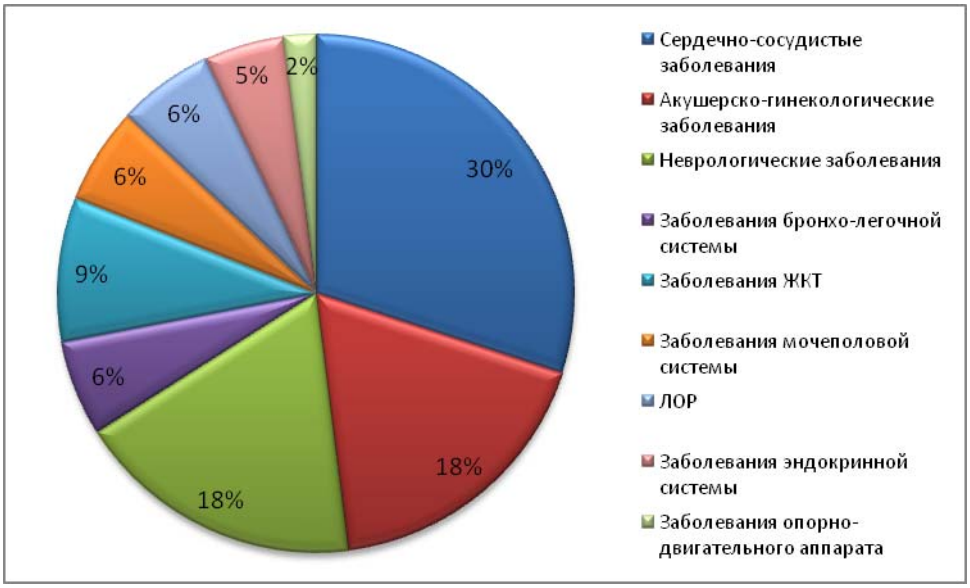
7.2. Morbidity structure of the interviewed patients in HSF FMC

Medicinal treatment for cardio vascular diseases was being received by 30% of interviewed patients, 18% were treated for obstetrical and gynecological pathologies (threat of miscarriage, uterus inflammation). 18% of interviewed patients were receiving treatment for neurological diseases, 9% - for digestive tract disease, 6% - for bronchi and lung, ear, nose, throat diseases, and 6% - for urogenital tract diseases from the total number of interviewed patients. Patients with endocrine pathologies made up 5% of the respondents and those suffering from musculoskeletal system disorders made up 2% of the total number of interviewed patients. (See Figure 7).

Figure 7

Percentage of patients in relation to their diseases

(30% CVDs, 18% obstetrics and gynecology, 18% neurological diseases, 6% bronchi and lungs, 9% digestive tract diseases, 6% urogenital tract, 6% nose, ear, throat, 5% endocrine system, 2% musculosceletal disorders).



Analysis of the patients' interviews receiving treatment in HSF FMC at the time of the research demonstrates that the biggest number of patients receiving treatment in all of the studied regions are the ones suffering from cardio-vascular diseases (CVDs) followed by obstetric and gynecological diseases (threats of miscarriage, small pelvis inflammation) in Bishkek and Issyk-Kul Oblast, and neurological diseases in Jalal-Abad Oblast. The third place is taken by neurological pathologies in Bishkek and Issyk-Kul Oblast and digestive tract diseases in Jalal-Abad Oblast. (See Table 10).

Table 10

Structure of patients in relation to their diseases broken down by Oblasts, in absolute numbers

Nosology	Bishkek	Jalal-Abad Oblast	Issyk-Kul Oblast
Cardio-vascular diseases	18	15	12
Obstetric and gynecological diseases	12	5	10
Neurological diseases	8	10	9
Bronchi and lung diseases	4	2	3
Digestive tract diseases	3	7	5
Urogenital tract diseases	-	7	2
Ear, nose, throat	4	1	4
Endocrine system diseases	2	3	3
Diseases of musculosceletal system	1	-	2

The biggest amount of interviewed patients, namely 81 (53%) were referred for treatment by narrow specialists (obstetricians/gynecologists, neurologists, ear/nose/ throat doctors, surgeons, rheumatologists, etc.). FMC family doctors referred 64 (42%)

of respondents. Only 7 (5%) patients were referred by regular hospital doctors. There has not been observed any individual cases of hospitalization (See Figure 8).

Figure 8

One of the significant advantages of getting treatment in HSF FMC in comparison to a regular hospital as noted by patients is the speed of hospitalization after referral. The majority of patients (96%) noted that they started receiving treatment within first three days after having received the referral. However 4% of patients noted that they were admitted to HSF in more than 3 – 5 days after referral. Because they had high levels of blood pressure and sugar in blood they were proposed to be admitted to a regular 24-hour in-patient institution.

7.3. Types of medical services provided in HSF FMC

At the moment of research all patients receiving treatment in HSF FMC were prescribed injections (intramuscular, intravenous, and drips). Only 1% of respondents noted that they receive physiotherapeutic procedures and undertake a course of remedial gymnastics. 77% of interviewed patients noted that during the primary examination their blood pressure was measured. 79% of responding patients reported that they are daily monitored by the HSF FMC doctor. (Figure 9).

Analysis of HSF patients' interviews also points out to the fact that the mostly demanded HSF services are injecting medicinal agents. Other types of medical services associated with diagnostics, examination, physiotherapeutic procedures, and others are being extremely rare.

Figure 9

Types of medical services provided to the patients, in absolute numbers

(117 – blood pressure measurement; 120 –examination by HSF doctor, 152 – intramuscular injections, 152 – intravenous drips, 0 – inhalations with phonophoresis, 6 – inhalations, 2 – physiotherapeutic procedures, 5 – massage, 2 – remedial gymnastics; 0 – other).

7.4. Organization of works of HSF FMC

The majority of HSF under FMC work in 2 shifts: from 8.00 to 12.30. and from 13.00 to 16.00. In Bishkek some of HSF FMC work in 3 shifts (until 18:00) due to a greater number of serviced population. All patients unanimously approve of this HSF schedule and consider this arrangement to be very convenient and accessible for them as they can visit HSF any time at their convenience. However, there was a problem voiced in relation to morning hour (from 9.00 to 12.00) service as this is the peak period when the majority of patients comes, thus, resulting, in long lines waiting to receive an injection.

Fragments from interviews:

Female patient I, 65 years of age diagnosed for rheumatoid joint inflammation. Varicose veins of lower limbs.

- *"These wards are necessary; they should not be closed under any circumstances. This is a very convenient arrangement for patients; it saves time and money".*

Female patient K., 61 years old diagnosed for SD type II. Diabetic polyneuritis.

- *"I can not go to hospital, and I receive treatment in HSF FMC any time that is convenient for me, and it saves time and money".*

Female patient N., 58 years of age diagnosed for hypertension II. Gonarthrosis.

- *“These wards are very convenient as I can not leave the house. I come here when is most convenient for me to get the prescribed treatment, except for weekends when the FMC is closed”.*

Female patient K, 35 years old diagnosed for chronic adnexitis on the right side.

- *“It is very convenient; there is no need to stay in hospital. It is economical both in terms of time and money”.*

Female patient M., 39 years old diagnosed for chronic cholecystitis.

- *“Such wards are very convenient for patients. It is much more expensive to get treatment in private clinics or hospitals”.*

Most of the time patients get admitted to HSF FMC with all laboratory and instrumental test results prescribed to be done by narrow specialists or family doctors.

Medicines and medical goods are being independently purchased by HSF FMC patients. The cost of medicines procured by patients is in the average range from 350 to 6000 som depending on the nosology, accompanying pathology, names of medicines, and therapeutic period. Patients are in a lot of instances prescribed brand names which are much more expensive than generic drugs under international names. It is noteworthy that the majority of HSF patients buy medicines based on prescriptions given by FMC under the State Benefit Package (provision of discounted medicines at the out-patient level) and the Additional MHIF Program (for insured citizens).

Practically all interviewed patients noted that existing prices associated with HSF treatment (the cost of one bed/day) are acceptable for them and are far more affordable than getting treated in a 24-hour hospital. 60% of the interviewed patients responded that they had made official payment through the cashier’s office as per the price list for the HSF medical services. 40% of the interviewed patients responded that they had not made any payments as they belong to the privileged category within the State Benefit Package (persons older than 70, disabled persons of group I and II, patients with sugar diabetes, and pregnant women).

In the majority of cases the interviewed patients that were receiving treatment in HSF FMC spoke for an increase in the number of beds. In their opinion, the increased number of beds would help reduce waiting lines peaking during morning hours. Some patients spoke in favor of improving material and technical equipment of wards, especially it is true for beds and bed linens.

The material and technical condition of HSF FMC (wards, beds, toilets) was described as medium by the majority of 73% of respondents with 22% evaluating it as good and 5% as poor. (Figure 10).

Figure 10.

8. Conclusions

Over recent decades a significant attention is being paid to introducing new modern methods of organizing medical assistance, in particular, hospital substituting facilities under primary health care institutions. Treatment in such facilities grants some advantages for the patients in terms of reducing the time for diagnostics, spending a bigger part of the day at home, excluding stress related to hospitalization to 24-hour hospitals, selecting medicinal therapy in the context of normal life not requiring any further adaptation. The main advantage of hospital substituting facilities is the opportunity to carry out a comprehensive treatment of patients in out-patient conditions without any unjustified overload of 24-hour hospitals.

Putting in practice hospital substituting technologies helps achieve the main goal of developing the primary health care level, namely moving the load away from hospitals to the out-patient level and strengthening of the preventive nature of the PHC.

The fulfilled research of HSF FMC in the selected regions showed that this form of organizing medical assistance has a sufficient demand from population as it is less costly for them (based on interviewing the patients) in comparison to regular hospitals and gives an opportunity to receive medical services without breaking away from their regular life style and work.

The research showed that the patients of HSF FMC are able bodied persons in the age range from 31 to 60 years, a fact stressing the social importance of HSF's work. One of the positive features is the absence of problems to get admitted to HSF FMC by the majority of patients both as broken down by regions and in the country in general. 96% of patients were hospitalized to HSF FMC during 1-3 days after receiving a referral.

Given the volume of services that are currently provided by HSF FMC which are mostly injection procedures, there is a need to revise the organization of works of these

facilities with the view of expanding a complex of provided services, diagnostics, in particular. Moreover, HSF FMC have to be oriented to work with patients with chronic diseases that, on one hand, would have a social importance and, on the other hand, would help vacate beds of regular hospitals for patients with acute diseases that require 24-hour in-patient treatment and monitoring. The existing organization of work of HSF FMC also has a number of organizational challenges related to the insufficiency of material and technical means and inadequate staff numbers.

The research objectives did not include a study of the quality of HSF assistance, therefore there is a future need to have a clinical assessment of patients who were treated by HSF from the point of view of evidence for treating them with injections and determine standards for receiving treatment in these facilities, as today there are no commitments to certain standards or approaches in treating HSF FMC patients.

It is also required to revise the existing approach to collecting statistical data about HSF FMC. In particular, there are no uniform methodologies to their organization, calculation of the bed capacity, staffing and equipping. The registration and reporting documents are not well developed (clinical or medical records), also there is no even approximately set period of staying in HSFs. The bed occupancy in 2009 comprised 309,2 which is high in comparison to regular 24-hour hospitals, which was 325,0. Correspondingly, as compared to the hospital level the bed turnover in HSF FMC is 1,8 times higher. These figures reflect the fact that HSF FMC work in 2-3 shifts with the bed throughput capacity being several people a day, and it is often the case when patients get their injections without occupying a bed. Given these factors, the existing form reflecting the bed occupancy in hospitals (bed occupancy a year, bed turnover, bed days, supply of beds, and hospitalization level per 1000 population) is not appropriate for HSF FMC. The review of statistical data shows that all hospital substituting facilities of FMC are multipurpose (there are therapeutic, neurological, surgical, gynecological, general adult, children's', and pediatric profiles), however, there is no official list of HSF FMC profiles in the available regulations with the statistical information about the bed profile being a pure formality. It is not known what is the principle behind their distribution by profiles. Therefore, it is necessary to revise the approach towards collecting information about the number of daily hospitals, including about their bed profiles. **The main feature of HSF FMC should become the volume of work performed, composition and structure of treated patients, duration of their treatment, and the amount of performed examinations and procedures for them.**

In general, the funds generated by FMC from providing HSF services make up less than 1% of the consolidated budget. The FMC do not keep separate reporting to account for expenditures associated with HSF services with the payment received for these services being used for satisfying general institution's needs, thus, making it quite difficult to evaluate the economic efficacy of these wards appropriately. The economic efficacy of HSF FMC could be judged only based on differences in state's expenditures and those of a patient when getting treated in regular hospitals and HSF FMC. This difference should be understood as savings of funds de to the reduction of 24-hour working medical staff, reduction of costs for medicines, and lack of expenditures for hospital meals, and also a reduction in electricity bills.

8. Main implications:

1. Hospital substituting forms of arranging medical assistance under FMC facilitates timely and comprehensive provision of medical services at the out-patient level and strengthening of prophylactic work;
2. HSF FMC provide assistance to the patients that are either in the earlier stages of a disease or chronic patients at the remission stage in order to prevent acute stages or complications;
3. Effective organization of HSF's work under FMC will help significantly reduce a number of unjustified hospitalizations to regular hospitals and vacate beds for treating worse cases;
4. Treatment in HSF at the out-patient level creates a high level of psychological comfort for patients with an increased accessibility of medical services. There is a lesser chance for psychological traumas associated with hospitalization to a 24-hour hospital, and many people have an opportunity to get treatment without breaking away from work and the need to obtain sick leaves (which is also true of the medical workers themselves);
5. Indirectly one can judge that there is a reduction of financial costs of patients as the payment for HSF services is significantly lower that the co-payment in case of hospitalization;
6. Based on the current bed reporting system one may conclude that HSF FMC is efficient, namely, there is an excess HSF bed turnover over regular hospital (on average 2-3 patients get their treatment on the HSF bed a day);
7. There is a noticeable reduction of institution's expenses for utility services and infrastructure of clinical divisions as the work of HSF lasts 8-10 hours per day (instead of 24 hours in regular hospitals). There is no work done during night time and, consequently, there is no need to increase remuneration for medical staff for the night shift;
8. There is an insufficiently developed organization of work in HSF in part of the provided medical services which are mainly about injection procedures;
9. There is a lack of uniform methodologies for collecting statistical data about HSF FMC (estimation of bed capacity and profile, staffing and equipping, composition and structure of treated patients, duration of their treatment, and volume of examinations and procedures, etc.);
10. There are no standards for registration and reporting in HSF FMC (clinical records, medical records, various registration journals);
11. There is a need for assessing the quality of treatment of HSF FMC patients and defining and developing relevant standards for treatment in such like institutions.

10. Recommendations:

1. Revise legal documents regulating HSF activities (including revising the existing statistical reporting system);
2. Clearly define the list of diseases, indications and counter indications for being admitted to HSFs;
3. Define a range of services provided by HSF FMC and consider an expansion of services pertinent to prevention of chronic diseases;
4. Consider making co-payments and financing HSF out of the MHIF budget;
5. Consider introducing KTU as an additional funding source for professionals working in HSFs;
6. Activate work to improve the medical service delivery in HSFs through introducing relevant standards, modern comprehensive methodologies for diagnostics and treatment of various diseases.

Annex #1

The list of indications for hospitalizing therapeutic patients to the HSF functioning in Bishkek:

1. Anemia: iron-deficiency anemia, B12-deficiency anemia, folic anemia related to nutrition due to the enzymatic disorder, hemolytic anemia, post hemorrhage anemia, and anemotrophy;
2. Endocrine system diseases: hypothyroidism, hyportheriosis, hyperthyroidism, thyroadenitis, nodular goiter, sugar diabetes types I and Itsenko-Cushing syndrome; obesity, amyloid disease;
3. Blood circulatory system diseases: rheumatic heart disease, rheumatic myocarditis, rheumatic pericarditis, hypertension I,II,III, stenocardia, atherosclerosis, postinfarction cardiosclerosis, insufficiency of the heart, pericarditis, myocarditis, cardiomyopathy, congenital heart disorders, thrombophlebitis, varicose veins;
4. Respiratory tract diseases: acute inflammations of upper respiratory tract, chronic bronchitis, acute pneumonias, smasmodic asthma, multiple bronchiectasis;
5. Digestive tract diseases: gastritis, peptic ulcer, cholecystitis, chronic pancreatitis, colitis, chronic hepatitis;
6. Musculoskeletal system diseases: arthritis, DOA, arthrosis;
7. Diseases of connective tissue: SLE, rheumatic arthrosis, multiple myositis;
8. Urogenital system diseases: chronic pyelonephritis.

The list of indications for hospitalizing neurological patients:

1. Consequences of craniocerebral injuries;
2. Cerebral atherosclerosis; circulatory encephalopathy;
3. A condition after hemorrhage (after 3-6 months of an acute stage) and consequences of an earlier hemorrhage;
4. Vertebrobasilar insufficiency (without frequent cerebral episodes);
5. Osteochondrosis, radiculitis with a moderate pain syndrome;
6. Neuritis, neuralgia;
7. Miopathy, ataxia, etc. (without failure of the function of pelvic organs);
8. A post-surgery condition of brain and spine (without bad malfunctioning);
9. Epilepsy with acute small attacks;
10. Benign intracranial hypertension and brain cysts;
11. Neurological manifestations related to sugar diabetes (polyneuropathy);
12. Toxic damage of CNS with moderate defects;
13. Consequences of inflammatory CNS diseases (arachnoidite, meningitis);
14. Migraine, ICP;
15. Vegetative nervous system disorder;
16. Vestibular damage (Meniere's disease, cochleoneuritis).

The list of indications for hospitalizing gynecological patients:

1. Chronic salpingitis and oophoritis;
2. Chronic inflammatory uterus diseases;
3. Inflammatory diseases of vagina and trema;
4. Abnormality of period an effect of inflammation;
5. Imminent abortion;
6. Vomiting of the pregnant: light and moderate stages;
7. Urinogenital infections during pregnancy;
8. Polyhydramnios;
9. Oligohydramnios;
10. Fetoplacental failure;
11. Anemias of pregnant women.