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General Practice Centers: Access and Efficiency

Murzalieva Gulgun (CHSD)
Kojokeev Kanat (CHSD)
Djemuratov Kuanichbek (Hospitals Association)
Torobaeva Aida (Hospitals Association)
Tuykova Elmira (Hospitals Association)

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Health Policy Analysis Unit, Center for Health System Development
• 1 Togolok Moldo Street , 720 040 Bishkek, Kyrgyz Republic
Phone: 996 (312)666-244 • Fax: 996 (312) 663-649 •Email: mjakab@manas.elcat.kg

Table of contents

Abbreviations

OMH	Oblast Merged Hospital
TH	Territorial Hospital
CH	City Hospital
THA	Territorial Hospital Affiliate
TH SD	Territorial hospital structural divisions
RH	Rural Hospital
FMC	Family Medicine Center
FGP	Family Group Practice
EC	Emergency Care
GPC	General Practice Center
PHCF	Primary Health Care Facilities
CRH	Central Rayon Hospital

1 Introduction

To improve the delivery of health services in remote and hard to reach areas, a restructuring process was implemented in 2001-06. This process focused on removing excess capacity from the system as elsewhere in the system and using efficiency gains to improve the quality of care. Despite these structural changes, remote and difficult-to-access regions continued to struggle with serious problems to deliver efficient, accessible and high quality health care services to the population including the following:

- Lack of financial resources in hospitals of remote areas due their small patient volume which under the case-based provider payment system did not generate sufficient revenues for them;

- Lack of human resources due to high rate of outward migration of health professionals and absence of new medical school graduates who would be willing to work in remote areas;

- Inadequate equipment and lack of ambulance cars to reach the population in far away areas who cannot make it to health care facilities ;

After identification of these problems, the MOH concluded that remote and hard to reach areas require a special solution in terms of service delivery structure and financing mechanism. This conclusion led to the creation of so called General Practice Centers (GPC).

General Practice Center is a health organization established by merging territorial hospitals with primary health care facilities. GPC's are paid on the same basis as their parent organizations: capitation payment in primary care for the enrolled population and case-based payments based on the number and type of hospitalized cases.

11 General Practice Centers were established in 2006 (Prikaz of the KR MoH #194 dated 20.04.2006). GPC's were a special solution for the problems of remote areas with population less than 25,000 people. The goal of the creation of GPC's was to optimize health service delivery structure and improve its financing by pooling resources for primary care with resources of hospital care. Overall, these changes aimed to improve efficiency and access to high quality care in remote areas.

This study aims to provide an early evaluation to understand whether merging primary care with secondary care improved efficiency and access to health care services in hard to reach areas. The study is expected to feed into the decision process of whether to roll out this model of service delivery for other hard to reach areas as well.

Our analysis suggests that merging primary and secondary care facilities into GPC's in remote areas has improved access and efficiency of health service delivery. Specifically, the following findings of the study are particularly encouraging:

- Performance of emergency services has improved;

- Continuity of health services delivered by the primary health care facilities and hospitals has improved.

- Operating efficiency has improved due to joint use of equipment, lab facilities and central sterilization facilities.

- The human resource problem is somewhat alleviated since physicians at the primary and secondary health care level are now able to substitute each other.

- Provision of medicines and medical supplies improved in some of the GPC's.

At the same time, there are a number of issues that require further attention before rolling out this model of service delivery to other remote and hard to reach areas.

- The financial incentives encourage over-hospitalization which will reduce efficiency.
- Managers of some GPCs place greater emphasis on the development of in-patient services as opposed to primary health care,
- Night-time service of PHC personnel may reduce quality of care for primary health care services.
- There is uneven remuneration of personnel with salary increase experienced in some places but reduction in others.
- There is no systematic approach to the distribution of performance bonuses to staff.

On the basis of these findings, we recommend refining the GPC model before rolling it out to other hard-to reach areas.

The paper is structured as follows: Section 2 provides a review of the objectives of study. Section 3 summarizes the methodology of the study. Section 4 describes the results, Section 5 concludes. Section 6 provides policy recommendations.

2 Purpose and objectives of the study

Purpose of the study:
1. Situation analysis of the GPCs' performance.
2. Comparative rating of access to health care before and after establishment of GPCs.

Objectives of the study:
1. Review laws and regulations applicable to the GPCs' activities.
2. Review changes in the infrastructure and the strength of laboratory and diagnostics equipment caused by establishment of the GPCs.
3. Analyze the main performance parameters as recorded before and after establishment of the GPCs
4. Evaluate the cost-effectiveness of the GPCs' activities
5. Find out the opinion of the GPC management and staff about performance of their GPCs.
6. Find out the public opinion about accessibility of health services in areas serviced by the GPCs.

3 Methodology

3.1 Profile of the GPCs covered by the study

As at August 1, 2007, the nationwide list of General Practice Centers featured a total of 10 operative GPCs (out of 11) – refer to Table 1.

Table 1: Brief profile of GPCs

No.	Community	Administrative status	Number of residents*	Organizational form prior to establishment of GPC	GPC variety
Jalal-Abad Oblast					
1	Kok-Djangak	City	10,314	CH	TH + FMC
2	Toguz-Toro	Rayon center	19,112	CRH	TH + FMC
3	Chatkal	Rayon center	21,835	CRH	TH + FMC
4	Karakul	City	23,460	CH	TH + FMC
5	Shamaldy-Sai	Urban-type settlement	9,947	RH	TH + FGP
Batken Oblast					
6	Samarkandek	Village	20,649	RH	TH + FGP
7	Aidarken	Urban-type settlement	22,649	CH	THA + FMC
Osh Oblast					
8	Chon-Alai*	Rayon center		CRH	TH + FMC
Chui Oblast					
9	Soosamyr	Village	6,208	RH	THA + FGP
Naryn Oblast					
10	Min-Kush	Urban-type settlement	5,004	CH	THA + FGP
Issyk-Kul Oblast					
11	Barskoon	Village	6,511	RH	THA + FGP

* No GPC existed at Chon-Alai as at the time of study

The GPCs can be categorized as follows:

Group 1 – GPCs established at the premises of rayon or city territorial hospitals, or family medicine centers (e.g., GPCs located in the Toguz-Torou and Chatkal Districts and the towns of Kok-Jangak and Kara-Kul).
Group 2 – GPCs established at the premises of territorial hospitals or offices occupied by family group practices (e.g., GPCs located in the urban-type settlement of Shamaldy-Sai, Jalal-Abad Province, and the village of Samarkandek, Batken Oblast).
Group 3 – GPCs formed by amalgamating a territorial hospital affiliate and a district family health care center (e.g., GPCs located in the urban-type settlement of Aidarken, Batken Province).
Group 4 – GPCs established at the premises of a territorial hospital affiliate and offices occupied by a family doctors group (e.g., GPCs located in the village of Soosamyr, Chui Province, the urban-type settlement of Min-Kush, Naryn Oblast, and the village of Barskoon, Issyk-Kul Oblast).

The TH and FMC based in the Chon-Alai Rayon (Osh Oblast) continue to operate as separate entities. The option of setting up a GPC in this district is currently under review by the KR Ministry of Health.

3.2 GPC performance indicators

With a view to attaining the purpose and objectives of the research project in point, the following data have been collected:

1. List of laws and regulations applying to the GPC activities.

2. Space (premises) occupied by the health care facilities concerned before and after establishment of the GPCs.
3. Changes in the aggregate and individual costs incurred within a consolidated budget.
4. Manning table (number of permanent positions, actually occupied positions, individuals employed, personnel breakdown by sex and age, professional competence).
5. Principal indices of the GPCs' performance:
    - Total number of visits (complete with a breakdown by disease)
    - Number of referrals to specialized doctors
    - Number of referrals for in-patient treatment
    - Available beds (total number of beds, bed turnover, average length of in-patient treatment)
    - Number of discharged patients

3.3 Interviews and focus-groups: methodology

In order to find out the inside opinion about performance of the newly established GPCs, there were conducted:

- semi-structured interviews with managers/deputy managers of GPC and representatives of local state administrations (a total of 16 respondents);
- 8 focus-group meetings with GPC administrative staff, inclusive of the chief and senior nurses, accountants and medical statisticians (a total of 45 respondents);
- 8 focus-group meetings with primary/secondary-level medical practitioners (a total of 44 respondents);
- 8 focus-group meetings with the primary/secondary-level midwife/nursing personnel.

In order to find out the public opinion about accessibility of medical services, there were conducted:

- 10 focus-group meetings (a total of 99 respondents).

Semi-structured interviews and focus-group sessions were conducted by use of dedicated questionnaires and in conformance with manuals developed especially for this purpose. Basically, the said questionnaires contained similar questions (except for questions offered to the management-level respondents) which would be asked of different individuals for the purposes of comparison of opinions.

4 Results of GPC performance analysis

4.1 Legal framework

Basically, the GPCs operate on the basis of the following regulations:

- Orders of the KR Ministry of Public Health (No.194 of April 20, 2006 and No.30 of January 29, 2007) complemented with the terms of reference for GPC;
- Orders of oblast-level coordinators.

Further, every GPC is in possession of a set of documents providing evidence for its legal status, inclusive of:

- a certificate of state registration/re-registration as a legal entity
- a statistical registration card

- a taxpayer's registration card

While the KR Ministry of Health ordered establishment of GPC in April 2006, the first GPCs were formed not before August 2006. Out of the eventual list of 11 GPCs, 4 GPCs commenced their activities 3-4 month, 2 GPCs – 5-6 months and 3 GPCs – 9-12 months after the said order came into effect. The KR MoH representatives believe that such a delay was due to the slow process of appointment of the GPC management and obtaining approvals from the local authorities.

4.2 Opinion of the GPC management about the legal framework for the GPC activities

All interviewees would be asked to respond to the following question: "What kind of legal foundation your GPC had when it started its activities? Please point out the advantages and disadvantages of this foundation?"

In the opinion of a prevailing portion of respondents, the current regulations governing the GPCs' activities only contain provisions of general nature, while failing to set out in detail the procedures for controlling the main lines of activity of the newly established organizational structures.

Typically, the GPC management will have problems when dealing with the following issues:

1) Estimation of:
   - the required number of beds, subject to the specific nature of the area under the GPC coverage;
   - the required overall strength of medical staff;
   - the standard workload for medical staff employed with rural clinics (it will often be the case that the workload of health personnel is unlimited).
2) Payroll administration.
3) Determining the appropriate format for statistical and accounting documents.

As the current regulations governing the GPC activities provide no guidelines for dealing with the aforementioned issues, some managers will normally refer to the existing regulations applying to territorial hospitals, while the majority of managers indicate that they have no clear guidelines, being thus forced to take varying approaches to problems as they arise, depending on the specific context.

All interviewees noted the gap between the rates of labor compensation provided to physicians and nursing staff of GPCs at both the in-patient and out-patient levels. Typically, the pay of out-patient medical staff is higher than that received by their fellow employees working at in-patient divisions. This inequality gives rise to dissatisfaction among the staff, which became particularly evident following a tangible increase in the workload of in-patient personnel caused by establishment of the GPCs. In the course of day-to-day work, the following questions would arise:

- What is the appropriate size of labor compensation payable to doctors combining the duties of in-patient and out-patient physicians?
- Are out-patient physicians referring patients to an in-patient clinic entitled to receiving a percentage of shared payment for examination?
- Are hospital personnel entitled to receiving the district coefficient (1.7) for handling out-patient cases?
- What is the appropriate size of labor compensation payable to administrative staff managing both the primary and secondary health care levels?

The next problem calling for quick resolution has to do with the format of statistical and financial reports. Most GPCs continue to keep separate accounts and reports for out-patient and in-patient divisions. Proposals have been made that a single format be established for the GPC reports so that same contain information on the in-patient division, FGP and EC.

Further, respondents noted the need to review the standard rates of GPC funding as the official statistics did not agree with the actual number of people living in the areas serviced by GPCs.

Thus, while the official statistics say that the population of Shamaldy-Sai runs to 10,000 people, the local GPC personnel indicated that the number of people actually serviced by the GPC was 2.0-2.5 times higher than the official one (28,000-30,000 men) due to clients coming from the nearby villages of the Aksy and Nauken Districts and a village belonging administratively to the town of Tashkumyr.

The Samarkandek-based GPC represents another example. Here, the GPC was established on the basis of a TH and a FGP (the latter used to be a part of the Batken-based FMC; the number of people registered with this FGP went down following incorporation of same into the GPC). This transformation caused a decrease in per-capita funding, which now barely suffices to support the payroll of the out-patient staff.

4.3 Infrastructure

According to the GPC management, the infrastructure of GPCs had experienced no changes since their formation (i.e. the premises that used to be occupied by hospitals and primary health care facilities had been handed over to the newly established GPCs in their entirety). This observation is further confirmed by quantitative data collected in the course of field work (refer to Table 2 below).

Table 2. Number of buildings and size of available space before and after establishment of GPCs

	Number of buildings			Available space		
	PHC (FMC, FGP)	Hospital (TH, THA)	GPC	PHC (FMC, FGP)	Hospital (TH, THA)	GPC
Kok-Jangak	2	13	14	510.0	8,142.7	8,652.7
Toguz-Toro	1/3	5	5	1,342.0	2,595.0	3,937.0
Chatkal	2	6	8	421.0	1,515.0	1,936.0
Karakul	2	1	3	4,647.9	2,886.2	7,534.1
Shamaldy-Sai	1	7	7	1,948.0	4,318.0	4,318.0
Samarkandek	2	4	6	246.0	1,133.9	1,379.9
Aidarken	1	3	4	1,616.6	2,571.8	4,288.4
Soosamyr	2	7	9	299.0	1,037.0	1,336.0
Min-Kush		3	3		2,880.0	2,880.0
Barskoon		1	1		333.0	333.0

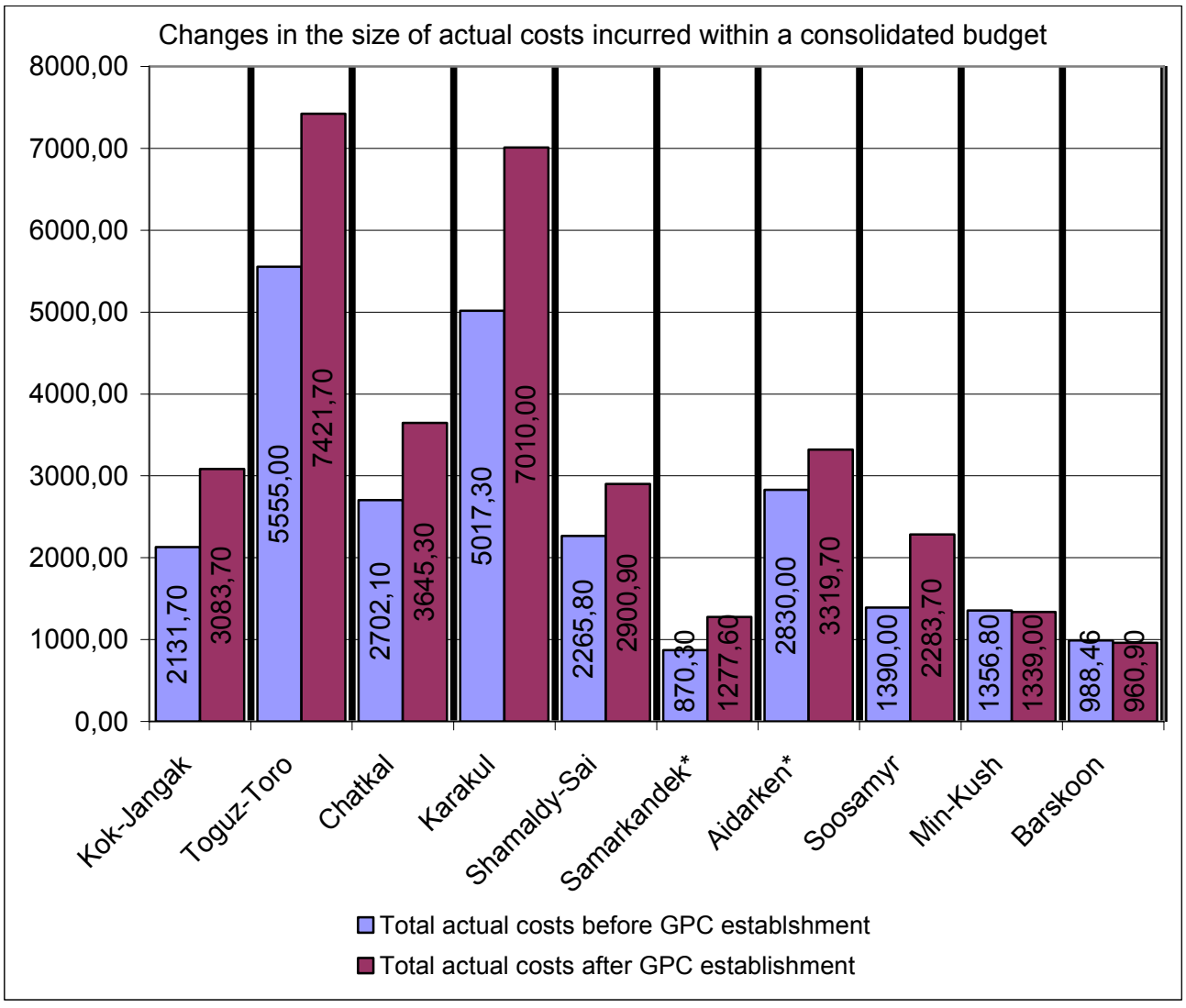
The only exception here is the Shamaldy-Sai-based GPC where former FGP was housed at premises which used to be occupied by the Shamaldy-Say TH. This resulted in the available space and the number of rooms decreasing from 6266 m^2 to 4318 m^2 and from 8 to 7, respectively.

4.4 Funding

Information on funding of the GPCs' activities is limited to actual expenditures data as (i) the amount of funding provided over a period of six months cannot give a complete picture of the overall funding of the GPC concerned due to uneven inflow of funds in the course of a year and (ii) the objective of the study lay with analyzing the dynamics of costs incurred at each single GPC before and after its establishment.

Analysis of actual costs incurred within a consolidated GPC budget reveals substantial variance between the amount of funds expended before and after formation of a GPC concerned (refer to Fig.1). An increase in the overall size of actual costs incurred within a consolidated budget was found to be typical of all GPCs.

Figure 1 Actual costs incurred within a consolidated budget



Increase in the amount of actual costs varied from KgS407,300 (Samarkandek-based GPC) to KgS1,992,700 (Karakul-based GPC) – refer to Table 3. Decrease in the size of actual costs only occurred at two GPCs based at Min-Kush and Barskoon (by KgS17,800 and KgS27,560, respectively).

Table 3 Actual costs incurred by health care facilities before and after establishment of GPCs: January-June of 2006 and 2007

GPC	Consolidated budget before GPC establishment (KgS)	Consolidated budget before GPC establishment (KgS)	Variance (KgS)
Kok-Jangak	2,131,700	3,083,700	952,000
Toguz-Toro	5,555,000	7,421,700	1,866,700
Chatkal	2,702,100	3,645,300	943,200
Karakul	5,017,300	7,010,000	1,992,700
Shamaldy-Sai	2,265,800	2,900,900	635,100
Samarkandek*	870,300	1,277,600	407,300
Aidarken*	2,830,000	3,319,700	489,700
Soosamyr	1,390,000	2,283,700	893,700
Min-Kush	1,356,800	1,339,000	-17,800
Barskoon	988,460	960,900	-27,560

Note: *Samarkandek-based GPC – 1st quarters of 2006 and 2007, Aidarken-based GPC – 1st and 2nd quarters of 2007

Comparative analysis of changes in the actual expenditures that accrued to the main cost items at all GPCs (10) in the 1st and 2nd quarters of 2006 and 2007 revealed substantial variations (refer to Table 4).

Table 4 Change in the amount of actual costs accruing to the main cost items (thousand KgS)

GPC	Payroll	Food	Drugs	Utilities	Other costs****
Kok-Jangak	**788.20***	1.10	-23.20**	**103.8**	44.00
Toguz-Toro	**1,760.60**	-20.20	81.20	7.10	17.50
Chatkal	**1,152.50**	36.60	-63.80	-174.80	7.4
Karakul	**2,055.70**	27.10	-74.30	75.20	**144.40**
Shamaldy-Sai	**623.3**	-84.20	-122.10	27.60	**184.70**
Samarkandek ***	**365.7**	46.90	-36.70	20.50	21.20
Aidarken ***	-127.20	95.60	-26.20	**605.60**	-43.80
Soosamyr	**526.70**	24.50	91.90	**136.60**	**120.70**
Min-Kush	-145.30	-11.00	25.40	53.50	35.30
Barskoon	61.76	-7.90	-54.50	-22.76	10.02

Note: *bold figures denote a considerable increase in costs
**colored figures denote a decrease in costs
***Samarkandek-based GPC – 1st quarters of 2006 and 2007, Aidarken-based GPC – 1st and 2nd quarters of 2007
****This column includes all other costs

- *"Payroll and deductibles to the Social Security Fund"*: all GPCs (except for Aidarken and Min-Kush-based GPCs) were found to have experienced an increase in the actual costs accruing to this cost item. The most tangible increase in the costs occurred at Karakul, Toguz-Toro and Chatkal-based GPCs.
- *"Food"*: food costs increased at six GPCs (Kok-Jangak, Chatkal, Karakul, Samarkandek, Aidarken, Soosamyr). The most tangible decrease in meal costs occurred at the Shamaldy-Sai-based GPC.
- *"Drugs"*: an increase in the drug procurement costs took place at three GPCs only (Toguz-Toro, Soosamyr and Min-Kush). The most tangible decrease in costs accruing to this item occurred at the Shamaldy-Sai-based GPC.

- **"***Utilities"*: a decrease in expenditures accruing to this cost item occurred at two GPCs only (Barskoon-based GPC – KgS22,760 and Chatkal-based GPC - KgS174,800). All the other GPCs experienced an increase in the utilities cost, the most tangible increase occurring at Aidarken, Soosamyr and Kok-Jangak-based GPCs);
- *"Other costs"*: an increase in expenditures accruing to this cost item occurred at nearly every GPC (except for Aidarken-based GPC). The most tangible increase in costs occurred in Shamaldy-Sai, Karakul and Soosamyr.

According to the available data on actual costs incurred at the primary health care facilities and hospitals (6 GPCs) in January-June of 2006 and 2007, the costs went up at both the primary health care (except for Aidarken-based GPC) and hospital (except for Min-Kush-based GPC) divisions of five GPCs (refer to Fig. 2 and 3).

Figure 2

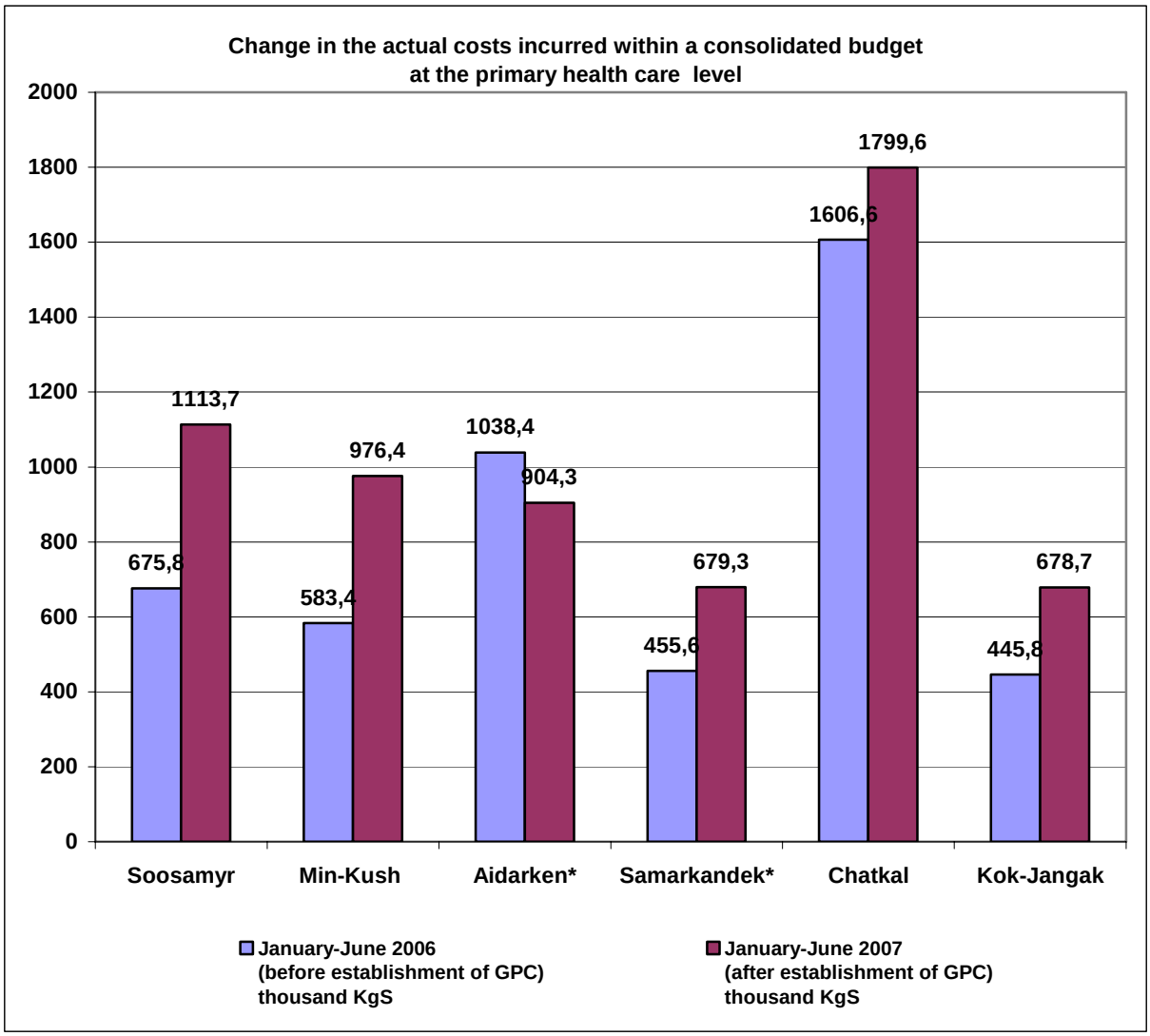
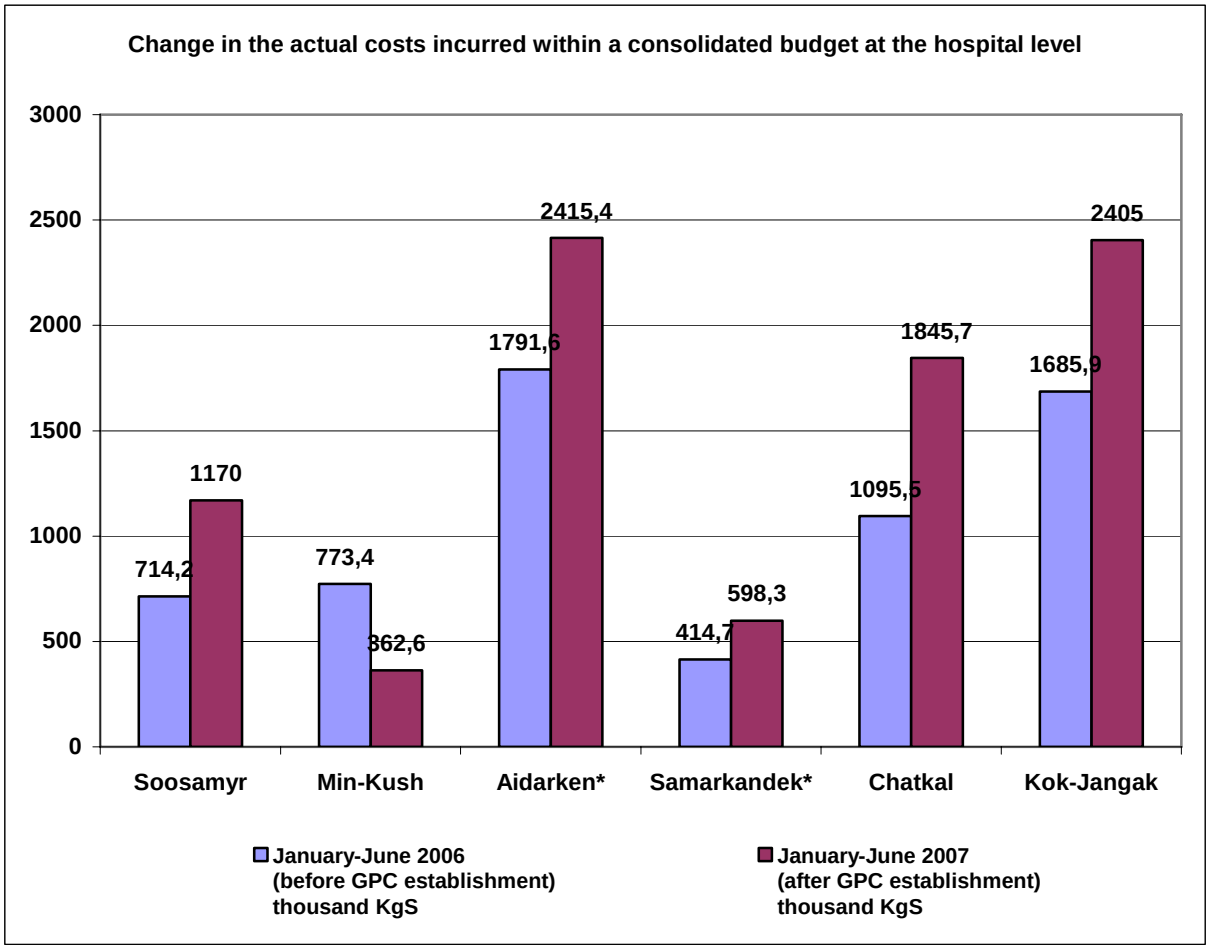


Figure 3



Opinion of the GPC management and staff

Food and drugs

- Most managers noted improvement in the provision of medicines and food following establishment of GPCs (Min-Kush, Soosamyr, Chatkal, Barskoon, Kara-Kul, Kok-Jangak, Shamaldy-Sai).
- The respondents attributed increase in the medicine procurement costs to the rise in the number of in-patients.
- At some GPCs, the in-patient divisions have “the-right-of-way” over out-patient clinics when it comes to distribution of medicines.
- Respondents noted a shortage of drug supplies available for the Additional MHI Drug’s Program, this shortage being due to a scant range of medicines at local drugstores or an outright lack of drugstores catering to Additional Drug’s Program needs (Chatkal).
- Management of some GPCs noted an increase in the cost of drug supplies expended at the outpatient level, this increase being covered at the expense of the in-patient subdivisions. One example is the Samarkandek-based GPC where funds allocated to FGP only suffice to cover the payroll costs (because of the low number of residents registered with this FGP), while the increased cost of medicines expended by the emergency service and the integrated management of pediatric diseases program is covered at the expense of the hospital.

Utilities

- All GPC managers noted absence of any arrears with payment for utility services.

Other costs

- Following establishment of a GPC at Barskoon, the in-patient division had the bed linen complement renewed and saw an overall improvement in the conditions for patients.
- The Karakul-based GPC had acquired a complete set of lab reagents.
- The GPCs at Toguz-Toro, Min-Kush, Soosamyr and Karakul saw an improvement in the provision of fuel supplies for their ambulance divisions.

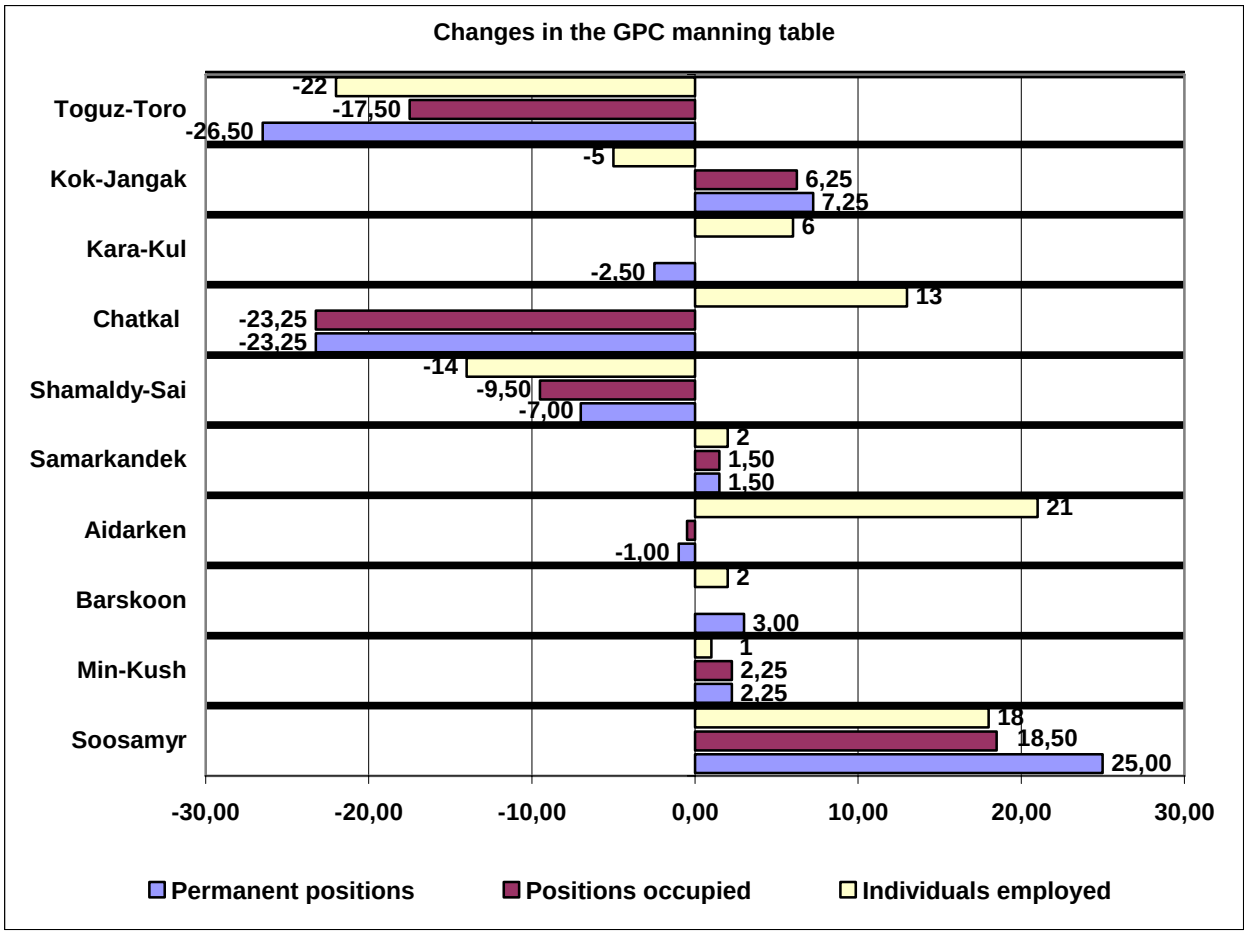
4.5 Human resources

Lack of human resources continues to be a problem for the entire health care system because of the ever-growing external and internal (from remote districts to big towns) migration of medical professionals and same quitting the occupation for good. It was expected at the time of establishment of GPCs that the effect that the aforesaid processes might have on the GPCs' performance could be mitigated by more expedient utilization of the limited human resources.

Analysis of the situation reveals four types of changes in the manning table of GPCs (refer to Fig. 4):

- Increase in both the number of permanent positions and the count of actually employed individuals (Soosamyr, Min-Kush, Barskoon and Samarkandek).
- Increase in the number of permanent positions and decrease in the count of actually employed individuals (kok-Jangak).
- Decrease in both the number of permanent positions and the count of actually employed individuals (Toguz-Toro and Shamaldy-Sai)
- Decrease in the number of permanent positions and increase in the count of individuals employed (Chatkal, Karakul, Aidarken)

Figure 4



Opinion of the GPH management and staff

- The GPCs' management noted that it was an established practice among FGP physicians before formation of GPCs to serve patients themselves (i.e., at the level of primary health care), avoiding sending them to the hospital. This practice was conditioned by general recommendations calling for treatment of many diseases at the primary health care level.
- Many managers indicated that morning briefings, general staff meetings, case studies and taking of joint decisions by FGP and hospital physicians on treatment strategies for out-patient cases were conducive to continuity of health care services. "It is an established practice now to not discriminate between FGP and hospital; patients are now examined jointly by FGP and hospital physicians" (Kok-Jangak, Aidarken, Chatkal, Toguz-Toro, Samarkandek, Kara-Kul).
- Physicians working at the primary and secondary health care levels are now able to replace for each other. "Before establishment of the GPC we used to be opposed to the FMC and could never get assistance from FMC physicians. Now we readily help each other, and there is a better cooperation between the physicians" (Shamaldy-Sai, Karakul, Kok-Jangak).
- The staff of outpatient subdivisions of a number of GPCs noted a decrease in their pay caused by reduction of the contribution-based coefficients and the 1.7 coefficient (Shamaldy-Sai, Toguz-Toro). The practice of combining jobs now becoming more prevalent, there is a need to organize a training course in family health care for the hospital staff so that they are able to get a pay raise and make out prescriptions for patients covered by the Additional Drug's Program.
- All GPCs (Shamaldy-Sai, Kok-Jangak, Min-Kush, Toguz-Toro. Kara-Kul, Barskoon) have implemented the practice of having FGP physicians do night shifts at the hospital.

While a part of the physicians are pleased to have a chance to earn money on top of their regular pay, some of their fellow employees perceive night-time duty as a burden, tending to provide low-quality service at the primary health care level. It is quite a rare practice for hospital staff to do duty at the out-patient clinic. Still, a new concept has emerged that "GPC physicians should do duty at both the outpatient and inpatient levels. There must be no separation between the hospital and FGP". In the light of this concept an opinion was voiced that hospital physicians need to take a training course in family medicine.

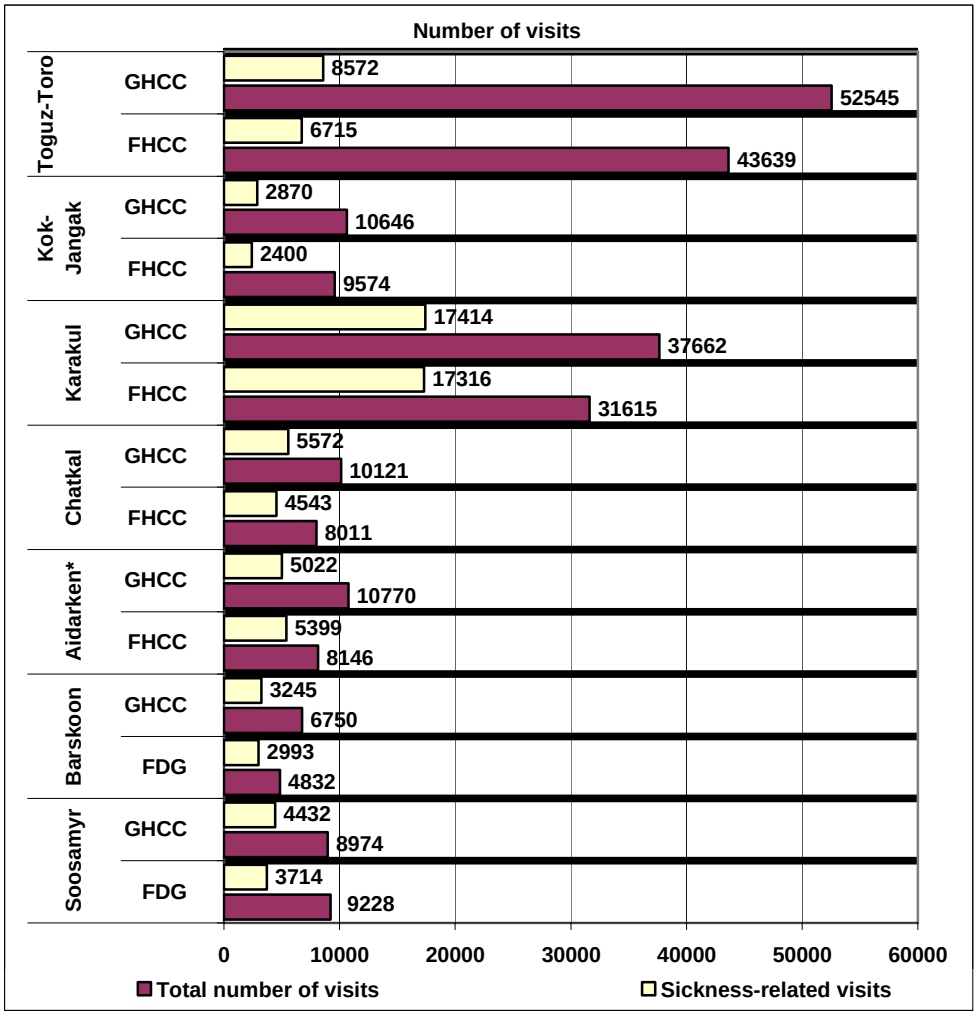
- Interviewees noted a lack of specialized doctors (throat doctors, urologists, ophthalmologists, traumatologists, surgeons, lab assistants).
- A big problem lies with getting a higher professional rating ("We filed our applications for increase in the professional rating long ago, still, we have received no summons to take an exam and, consequently, there is no raise in our ratings and pays").

4.6 Out-patient visits and hospital admissions

For the purposes of this study, the following performance indices were used: (1) number of outpatient visits (aggregate number of visits and number of sickness-related visits), (2) number of patients referred to the hospital, (3) number of patients referred to specialized doctors and (4) number of discharged in-patients. Analysis of information sourced from the statistical departments of GPCs (comparative analysis was carried out for the periods of January-June of 2006 and 2007; in the case with the Aidarken-based GPC comparative analysis was done for the 1st and 2nd quarters of 2007; in the case with Samarkandek-based GPC comparative analysis was carried out for the 1st quarter of 2006 and 2007) reveals an increase in the performance indices as indicated below:

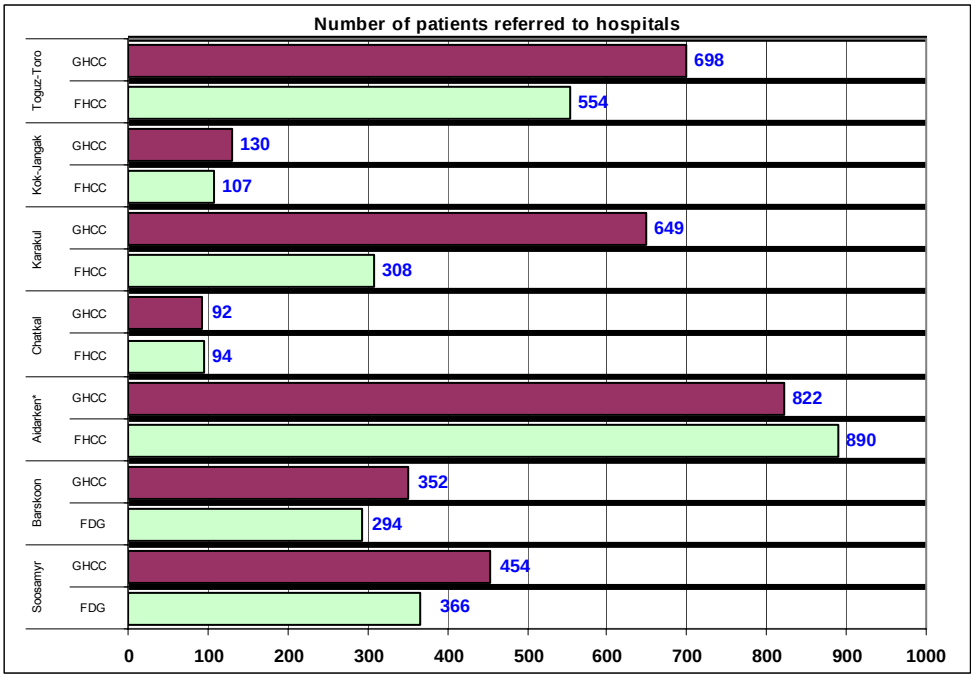
Index 1 (Fig. 5). **The aggregate number of outpatient visits and number of sickness-related outpatient visits** went up at nearly every GPC, except for the Soosamyr-based GPC (the aggregate number of visits dropped by 254) and the Aidarken-based GPC (the number of sickness-related visits decreased by 377).

Figure 5


Number of visits
Toguz-Toro
GHCC
8572
52545
FHCC
6715
43639
Kok-Jangak
GHCC
2870
10646
FHCC
2400
9574
Karakul
GHCC
17414
37662
FHCC
17316
31615
Chatkal
GHCC
5572
10121
FHCC
4543
8011
Aidarken*
GHCC
5022
10770
FHCC
5399
8146
Barskoon
GHCC
3245
6750
FDG
2993
4832
Soosamyr
GHCC
4432
8974
FDG
3714
9228
0
10000
20000
30000
40000
50000
60000
Total number of visits
Sickness-related visits

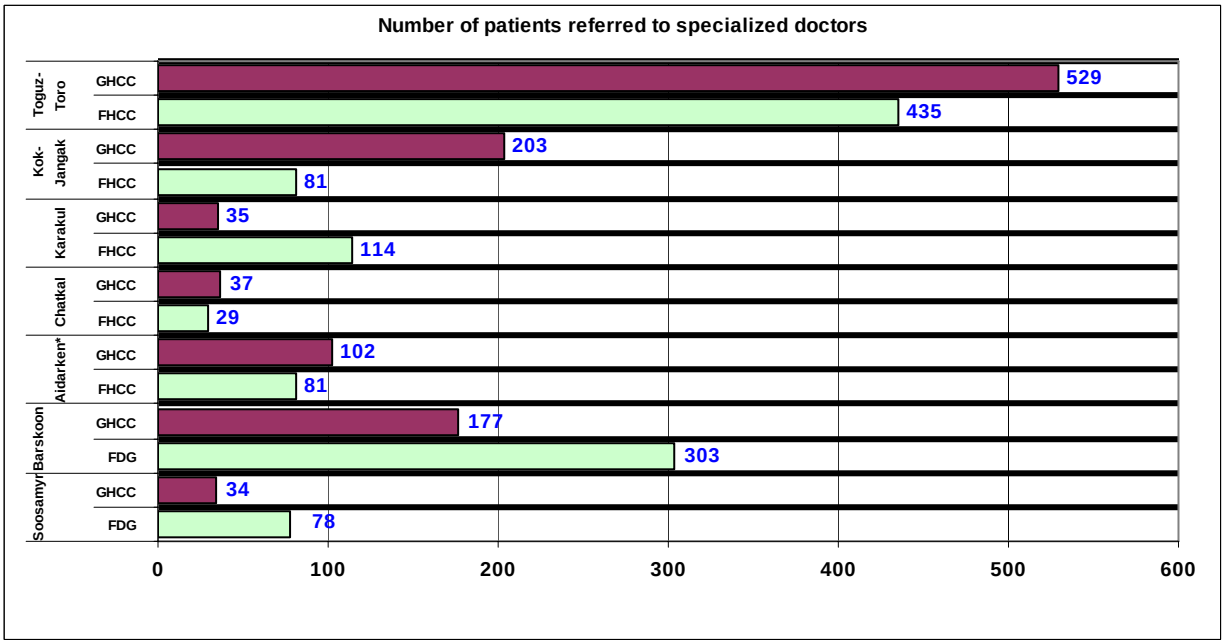
Index 2 (Fig. 6). **The number of patients referred to hospitalization** went up at nearly every GPC, except for Aidarken-based GPC (a decrease by 68 cases) and Chatkal-based GPC (a decrease by 2 cases).

Figure 6



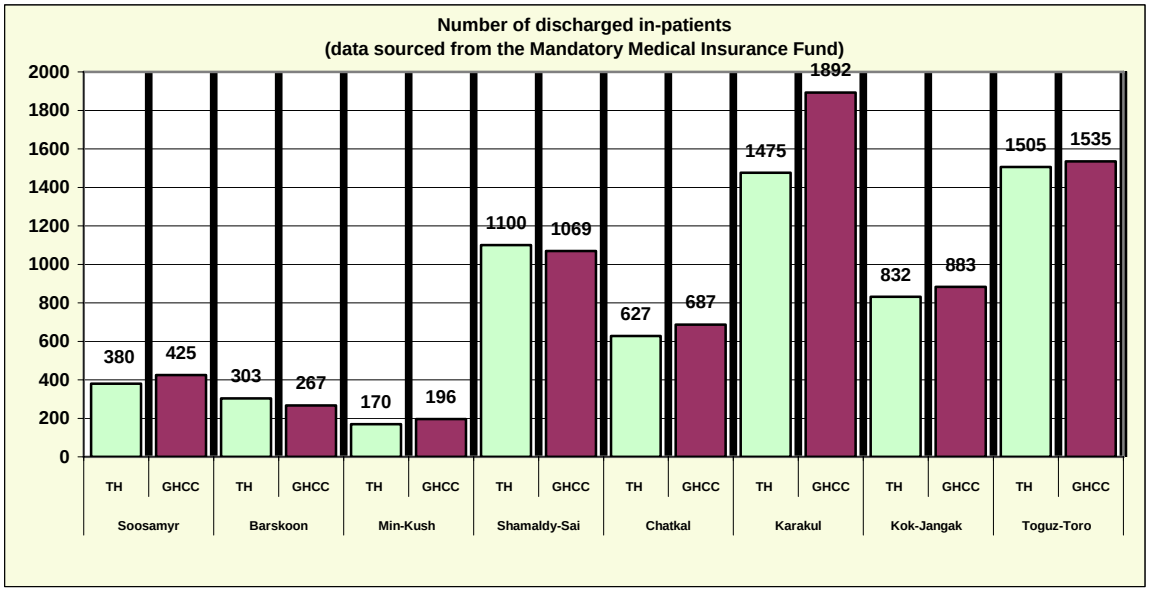
Index 3 (Fig. 7). **The number of patients referred to specialized doctors** went up at nearly every GPC, except for the Soosamyr and Barskoon-based GPCs (a decrease by 44 and 126 cases, respectively).

Figure 7



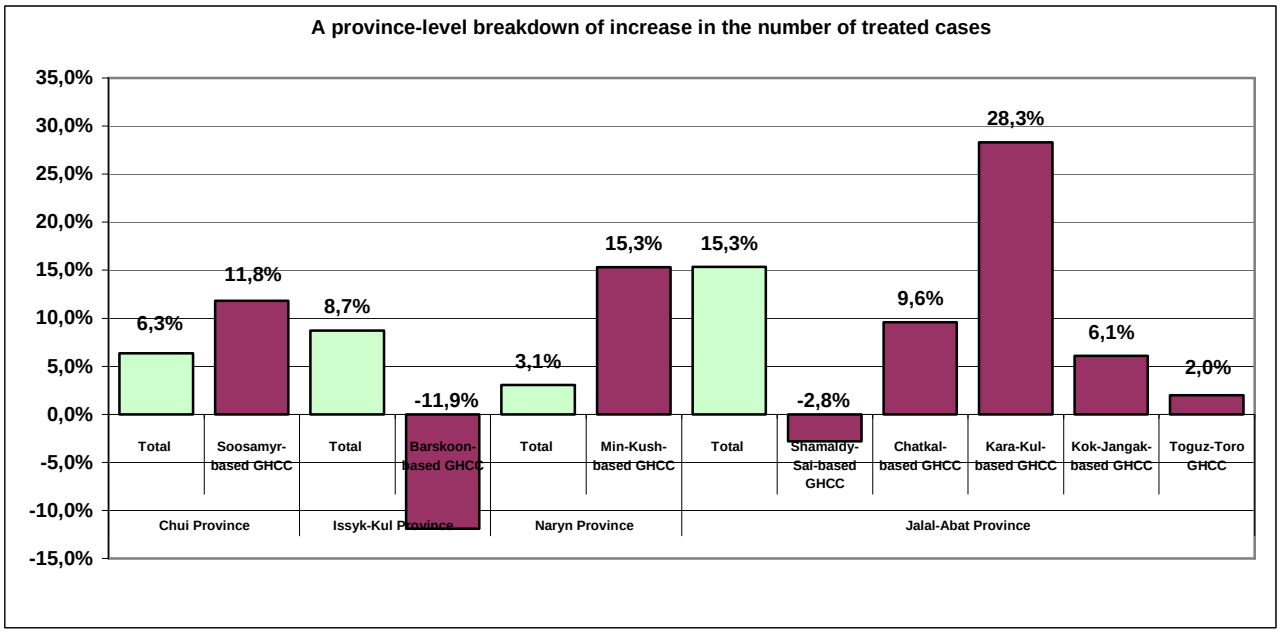
Index 4 (Fig. 8). **The number of discharged in-patients** went up in nearly every GPC, except for the Barskoon and Shamaldy-Sai-based GPCs (a reduction by 36 and 31 patients, respectively).

Figure 8



Analysis of changes in the aggregate number of cases treated at all clinics in January-June 2006 and January-June 2007 was carried out by use of data sourced from the Mandatory Health Insurance Fund (refer to Fig. 9).

Figure 9



It is evident from the above figure that:

1. The number of cases treated at the Issyk-Kul oblast health care facilities increased by an average of 8.7% (a change in the number of treated cases ranged from –65.8% to 27.1%). The number of cases treated at the Barskoon-based GPC dropped by 11.9%.
2. The number of cases treated at the Naryn oblast health care facilities increased by an average of 3.1% (a change in the number of treated cases ranged from -16.5% to

15.3%). The highest increase in the number of treated cases was registered at the Min-Kush-based GPC (15.3%).

3. The number of cases treated at the Chui oblast health care facilities increased by an average of 6.3% (a change in the number of treated cases ranged from -16.7% to 45.2%). The number of cases treated at the Soosamyr-based GPC increased by 11.8%.
4. The number of cases treated at the Jalal-Abat oblast health care facilities increased by an average of 15.3% (a change in the number of treated cases ranged from -86.2% to 121.1%"). The number of cases treated at the Karakul, Kok-Jangak, Toguz-Toro and Chatkal-based GPC increased by 28.3%, 6.1%, 2.0% and 9.6%, respectively; the number of cases treated at the Shamaldy-Sai-based GPC dropped by 2.8%.

Thus, a rise in the number of in-patients discharged from the GPCs can be attributed to the general tendency towards increase in the overall number of cases treated at the oblast health care facilities (although some hospitals saw a drop in the number of treated cases).

Opinion of the GPC management and staff

- Prior to establishment of GPCs, in-patient physicians had no authority to refer patients for hospitalization. Formation of GPCs resulted in the physicians being now vested with such an authority, which caused an increase in the number of hospitalized patients (Min-Kush, Karakul, Aidarken, Kok-Jangak, Barskoon, Samarkandek).
- Respondents noted improvement in the performance of hospitals (increase in the number of admissions and the number of discharged patients, higher bed turnover, lower mortality rates) and increase in the number of patients referred by FMC (FGP).

4.7 GPCs as perceived by the medical staff

In the course of focus-group sessions the participants (physicians, mid-level staff and management) would be asked the following question: "What was the purpose of formation of the GPCs, and what is the degree of achievement of this purpose? The polling results are provided below:

- In the opinion of participants of 10 focus-group sessions, the purpose of establishment of GPCs lay with "ensuring thrifty utilization of financial resources of the hospitals and primary health care facilities". Degree of achievement of this purpose runs to an average of 31.5%. Dispersion of opinion ranged from 5% to 100%.
- In the opinion of participants of 8 focus-group sessions, the purpose of establishment of GPCs lay with "improving the continuity of health service provided at various levels of the health care system". Degree of achievement of this purpose runs to an average of 58.8%. Dispersion of opinion ranged from 60% to 80%.
- In the opinion of participants of 7 focus-group sessions, the purpose of establishment of GPCs lay with "improving the quality of health care services". Degree of achievement of this purpose runs to an average of 37.1%. Dispersion of opinion ranged from 10% to 70%.
- In the opinion of participants of 6 focus-group sessions, the purpose of establishment of GPCs lay with "setting up a single system of management". Degree of achievement of this purpose runs to 100%.
- In the opinion of participants of 6 focus-group sessions, the purpose of establishment of GPCs lay with "improving the physical accessibility of health care for the public". Degree of achievement of this purpose runs to 70.8%%. Dispersion of opinion ranged from 45% to 100%.
- In the opinion of participants of 6 focus-group sessions, the purpose of establishment of GPCs lay with "compensating for the shortage of human resources". Degree of

achievement of this purpose runs to 49.2%%. Dispersion of opinion ranged from 10% to 100%.

- In the opinion of participants of 4 focus-group sessions, the purpose of establishment of GPCs lay with “ensuring that the clients are satisfied with the quality of health care services”. Degree of achievement of this purpose runs to 53.8%%. Dispersion of opinion ranged from 20% to 80%.

4.8 Public opinion about accessibility of health services provided by GPCs

The results of polling conducted in the course of focus-group sessions boil down to two main findings:

1) The people are unaware of establishment of the GPCs and have no idea about the purpose of amalgamation of the primary and secondary health care facilities.

2) The people have felt no tangible changes in the access to medical services and the way they are provided following establishment of the GPCs.

However, the respondents voiced the following general opinions about recent changes in the performance of the health care facilities:

Some respondents were pleased with the following changes brought about by establishment of GPCs:

- Sufficient supply of medicines
- Simplified procedure of hospital admissions
- Slight improvement in the quality of food
- Improvement in the quality of emergency service

Problem areas:

- Shortage of specialized doctors (obstetricians/gynecologists, surgeons, endocrinologists, cardiologists, hematologists, ultrasound diagnosticians, radiologists).
- Absenteeism among family doctors (“they will show up in the office on rare occasions, and will not attend to clients’ calls”).
- Poor service at FGP (overcrowding, long waiting lines).
- Poor service at MTH (X-ray equipment, diagnostic equipment, shortage of beds, ancient mattresses and bed linen).
- Shortage of medical personnel.

5 Conclusion

Analysis of performance of the currently active GPCs yields an ambiguous picture. All GPCs were found to have both positive and negative experience depending on a number of factors including pre-establishment conditions (funding, infrastructure, specific features of the covered area), logistics support, human resources (strength of the physicians’ and nurses’ pool, professional competence, age distribution) and style of management and routine activities.

Our analysis suggested that overall GPC’s have improved the access and efficiency of health service delivery in remote and hard to reach areas. Specifically, the following findings are particularly encouraging:

- **Performance of the emergency service has improved** (Toguz-Toro, Min-Kush, Soosamyr, Karakul). Respondents noted that formerly FMC were unable to attend to all calls because of lack of fuel and motor oil supplies, which would lead to clients having to

pay for fuel themselves. Following establishment of GPCs, the provision with fuel has improved tangibly and the ambulance service is now able to attend to all urgent calls.

- **Continuity of health services delivered by the primary health care facilities and hospitals has improved**. Many managers indicated that morning briefings, general staff meetings, case reviews and taking of joint decisions by FGP and hospital physicians on treatment strategies for out-patients were conducive to continuity of health care services (Kok-Jangak, Aidarken, Chatkal, Toguz-Toro, Samarkandek, and Kara-Kul).

- **Operating efficiency has improved due to joint use of equipment, lab facilities and central sterilization facilities.** Thanks to the material and technical resources having become a common property after formation of the GPCs, the out-patient physicians are now able to send their clients for laboratory diagnostics (Kok-Jangak, Aidarken, Shamaldy-Sai, and Toguz-Toro).

- **The human resource problem is slightly alleviated since physicians at the primary and secondary health care level are now able to substitute each other.**

- **Provision of medicines and medical supplies improved in some of the GPC's. (e.g. Toguz-Toro, Soosamyr and Min-Kush).**

At the same time, there are a number of issues that require further attention before rolling out this model of service delivery to other remote and hard to reach areas.

- **The financial incentives encourage over-hospitalization which will reduce efficiency**. GPC management indicated that prior to establishment of their GPCs the primary care staff would seek to service clients themselves (i.e. at the level of the primary health care), avoiding sending them to inpatient treatment. This approach was in line with general recommendations calling for treatment of as many conditions as possible at the primary health care level. With the establishment of GPC's, GPC's can increase their revenue by hospitalizing more patients and primary care and hospital care being in the same organizational unit, this has become significantly easier.

- **Managers of some GPCs place greater emphasis on the development of in-patient services as opposed to primary health care**, This is typical for those GPCs that were previously functioning CRH. In these organizations, there is a dominant role of the hospital with an underdeveloped primary health care, and total absence of preventive care. This approach is contrary to the purpose and objectives of the reforms in progress.

- **Night-time service of PHC personnel may reduce quality of care for primary health care services**. All GPCs (Shamaldy-Sai, Kok-Jangak, Min-Kush, Toguz-Toro, Kara-Kul, Barskoon) have implemented the practice of having FGP physicians do night shifts at the hospital. While a part of the physicians are pleased to have a chance to earn money on top of their regular pay, some of their fellow employees perceive night-time duty as a burden, tending to provide low-quality service at the primary health care level. It is quite a rare practice for hospital staff to do duty at the outpatient division. Still, a new concept has emerged that "GPC physicians should do duty at both the out-patient and in-patient levels. There must be no separation between the hospital and FGP". In the light of this concept an opinion was voiced that hospital physicians need to take a training course in family medicine.

- **There is uneven remuneration of personnel with salary increase experienced in some places but reduction in others.** The staff of some GPCs (Chatkal, Toguz-Toro) saw an increase in their compensation. The staff of the Toguz-Toro and Soosamyr-based GPCs receive quarterly bonuses out of the saved funds pool; however, not every GPC is able to pay such bonuses. Thus, the management of one of the GPCs indicated

that “there are no conditions for providing financial incentives, the only option being to pay bonuses based on the number of treated cases”. This finding can affect the ability of the GPC model to mitigate the human resource problem in these remote areas.

- **There is no systematic approach to the distribution of performance bonuses to staff**. In the course of the interviews it became clear that the bonus system had changed – not all of it for the better (e.g., all coefficients have been withdrawn; some contribution-based coefficients are no longer paid, etc.). Since their establishment, the GPCs have not seen implementation of any productive innovation. At some GPCs the contribution-based coefficients due to FGP and hospital staff are paid separately (Toguz-Toro, Aidarken and Soosamyr).

With regards to efficiency of the GPC’s, we conclude that merging primary and secondary health care facilities has improved the efficiency and quality of health services in remote locations. However, the study also revealed a number of problems in the area of GPC management, which hamper the GPCs’ activities to a substantial degree and prevent further efficiency gains. **With regards to access to care under GPC’s**, we noted an increase in the uptake of services at both the out-patient and hospital levels (number of visits and hospital admissions). However, discussions with the population there has been no significant changes in access to health services, neither deterioration nor improvement suggesting that these changes may either be too early or too small for the general population to notice.

6 Recommendations

Based on analysis of the entire body of available data, we recommend as follows:

1. Review the legal framework for the GPCs’ activities in the light of the fact that a GPC stands and operates as an indivisible organization:
    - revisit the role and job duties of the administrative and medical staff of a GPC;
    - update the payroll administration procedures;
    - optimize the format of statistical and financial statements.
2. Discuss changing the funding mechanisms of GPC’s potentially moving away from the current mix of capitation and case-based payment to a global budget with volume targets. This would reduce incentives to over-hospitalize.
3. Arrange for the GPC administrative personnel to take a training course in management and to exchange experience with a view to ensuring more effective implementation of the new style of GPC operation.
4. Review the option of arranging for the GPC in-patient staff to take a training course in family medicine in order to ensure due quality of out-patient health care.
5. Revisit the issues of registration of potential clients with health care facilities subject to the number of actually serviced clients and territorial belonging of inhabited locations concerned.
6. In order to obtain a more comprehensive assessment of GPC performance and accessibility of health care services, and also with a view to ensuring further dissemination of accumulated experience, it may make since to organize a recurrent study following update of the legal framework (with reference to the annual results).