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Efficiency and resource allocation: the Hungarian managed health care system

The managed health care system (MHCS) was introduced and applied in Hungary between 1999 and 2009. The gradually expanding system covered only 22% of the population and included exclusively the curative-preventive health care, subsidy on medicaments, subsidy on therapeutic appliances and the spa service. Like anywhere else it was cost-effectiveness that was expected from the MHCS without the adverse effect in the quality of the health service. To decide whether the MHCS was successful in Hungary or not, we compare it with the results of those segments of the health system where the MHCS was not introduced. We use the method of the incremental cost analysis. We are making our comparison exclusively on the basis of health economics aspects, because no difference has evolved in the quality of the medical attendances. We will see that where the MHCS was applied, the medical attendance became cheaper, at those places where the MHCS was not applied the medical attendance became more expensive, causing a chronic financial deficit (137785 million HUF). Although the MHCS managed from less money, it gained 17767 million HUF during the mentioned ten years. We are going to present the general features of the MHCS and support the fact that the outcome of the managed care concept was rationalized and the savings in several segments of health care, by means of empirical evidence.

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After the regime change of 1989 in Hungary the healthcare system had to face a lot of new challenge, which were mainly financing problems *(Orosz at al 1998; Waters et al 2008; Fuchs – Emmanuel 2005)*. The solution was seen in that the state dominance had to be reduced and had to replace it with market and quasi-market mechanisms in certain parts of the health care *(Csonka 2004)*. It was thought that the soft budget constrains causing continuous financial deficit could be fortified with these measures *(Kornai 1998; Kornai et al 2003)*. As a consequence of this the MHCS operating on the quasi-market basis was introduced in 1999, and was started up on the basis of the synthesis of the American Health Maintenance Organization and the English General Practitioner Fundholding institutional models *(Mihályi 2003a, 2003b; Saltman 2008)*. Therefore this was a typical Hungarian managed health care system (MHCS).

In this study we are going to analyze shortly how the MHCS worked in Hungary, what kind of financing method was elaborated, what kind of functions the general practitioners and the case managers had. Following this we are going to analyze what kind of cost effectiveness the Hungarian MHCS resulted in. We are going to ascertain this while comparing the financial balance of the participants in the MHCS with the financial balance of the health care system outside the MHCS. We are going to call the latter sector as public health system (PHS) for the sake of simplicity. (It might be a little misunderstanding to use this category; however we stay at this abstraction, because we think this conveys the most, that in this system the MHCS was not used at all, none of the methods of the managed care can be discovered in it.) We will see that where the MHCS was introduced profit could be gained in every year, while in the PHS the financial deficit came to stay.

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Methods

In this study we used the data of the National Health Insurance Fund Administration (NHIFA) and the Hungarian Central Statistical Office (HCSO), the reports of the State Audit Office of Hungary (SAOH) and the closing accounts of Ministry of Finance (MF). We are comparing the efficiency of the MHCS and the PHS with the method of incremental cost analysis concerning the period of 1999 and 2009 *(Tunsater et al 2007)*.

First of all we will ascertain the difference between the income and the costs of the MHCS. From this we can find out how much saving they could bring to book in every year. As the MHCS could get more resources during its operation than the PHS, hence we can determine the annual profit of the MHCS as a difference of the saving and the extra income, after that we compare the balance of the MHCS and the PHS, this way we will find out which of them was more cost-effective.

At the first sight it seems to be an easy mission, but it is not, because neither of the institutions in Hungary collected the statistics concerning the MHCS. As a consequence of this we had to collect the part data could be found at the above mentioned institutions, which very often measured the results of the MHCS in a different way. We had to integrate these statistical data and we had to give coessential meaning for certain abstractions. Just one example from the many: the budgetary year lasted from 1 October of the certain year till 30 September of the next year in the MHCS. The budgetary year in the PHS was different; it was the same as the calendar year. In many cases we had to face that the balance of the MHCS was given in the calendar year and they neglected the budgetary period concerning them. This way the balance of the cost and income did not accord in the data bases of the different institutions. We had to unify these data bases in the content to be able to start this work at all. It made our work even harder that a lot of data in connection with the MHCS are secret, therefore we can present only the public and free accessible data.

Results

On the basis of the synthesis of the English and American models the MHCS was introduced in Hungary between July 1999 and January 2009. The system operating on a regional basis was at the beginning applied only as a pilot model. As a result of the quick successes the number of the members was increased year by year *(Table 1)*.

Table 1

General features of MHCS

Year	Number of beneficiaries	Share of beneficiaries to total population	Number of case managers	Number of GPs
1999	158.984	1.55%	9	103
2000	199.882	1.95%	5	133
2001	475.646	4.68%	7	298
2002	476.531	4.68%	11	298
2003	968.788	9.55%	11	635
2004	1.888.574	18,62%	18	1240
2005	2.279.513	22.57%	16	1495
2006	1.689.927	16.77%	12	1090

Source: National Health Insurance Fund Administration, State Audit Office of Hungary, Ministry of Finance, and Hungarian Central Statistical Office.

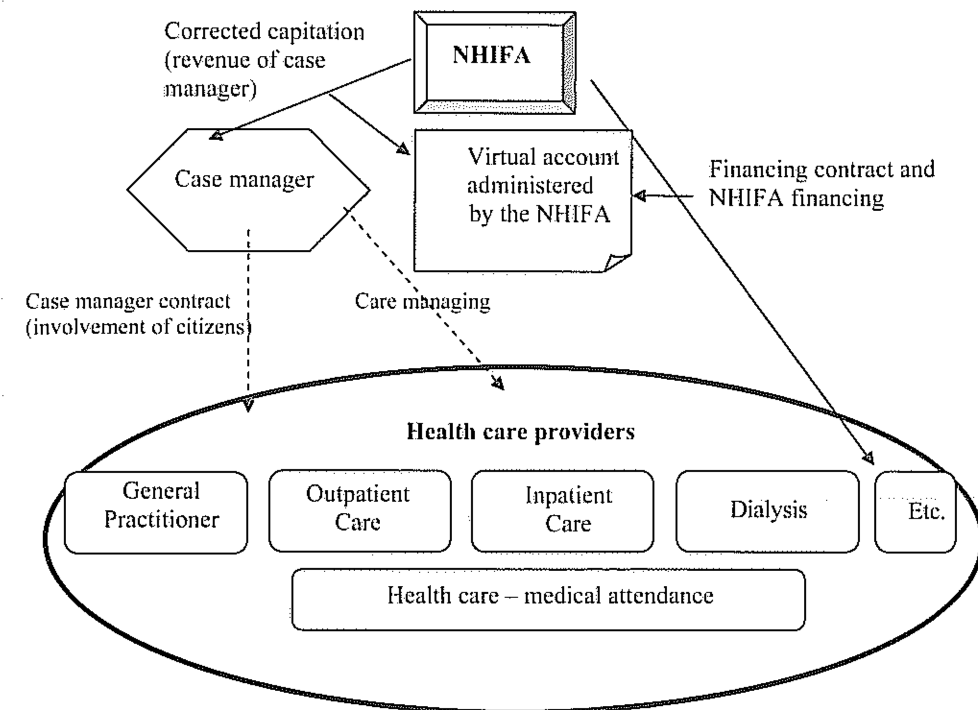
To join the MHCS the general practitioner had to submit his/her joining application to the NHIFA. If the NHIFA accepted it, the patients belonging to the general practitioner got into the system automatically. This was the cause why the MHCS was not successful, because it hurt the right to the free choice of the patients connecting to the health care. The patients were not questioned whether they would have liked to join or not, the decision was only in the general practitioners' hand. However, the MHCS broke the law on the handling and protecting health and personal so the government ceased to finance and operate it between the years of 2007 and 2009.

The goals of the Hungarian MHCS were the working out of the aspects of the unique quality assurance, the increase of the cost efficiency, the development of the IT services, the development of the information technology needed to analyze patient paths, more liberal and more rational resource allocation, the increase of the health gain and finally to extinguish the parallel attendances and examinations. From a health-economics point of view the most important was to improve the health status of the population while placing the cost effectiveness in the foreground. The general practitioner's and family paediatrician's service (GP), spa treatments, dental services, subsidy on therapeutic appliances, transport of patients (from 2004), subsidy on medicaments, outpatient care, inpatient care, home special care, dispensaries (from 2004, including pulmonary dispensaries, dispensaries of dermato-veneral, psychiatric dispensaries, addictology dispensaries), dialysis, CT and MRI were classified as services involved into the MHCS. To accomplish these, the most important instruments were the following: to put the prevention in the foreground, to define the unique service protocol and to fortify the interactions between the GPs.

The operating mechanisms of the Hungarian MHCS were based on the policy of quasi competition, which meant that the financing remained the task of the state, however the relationship between the supply and the demand became decentralized, and this was determined by the power relations of the market, to be more precise by the managed competition *(Le Grand 1992).*

Figure 1

Structure and financing of MHCS



Source: Boncz et al 2004

The savings were not evolved from the deficit or bail out, save (we share the details under), but were originated from rational economy and saving. The failures of the market were corrected by state intervention; the governmental failures were recovered with market solutions *(Zuiderent – Grit 2010).* This way it was possible to harmonize successfully the regulatory and incentive functions between the market and state systems *(Le Grand 1991).* These did not extinguish each other's effectiveness, conversely, they complemented each other, enhancing each other's strength and softening each other's weaknesses *(Paulus et al 2003).*

In the operation of the MHCS the GP had a central function. The patient had to – if the character of his/her illness and the conditions made it possible – meet first his/her GP in the process of his/her cure. If the patient had to be sent to a further level of the medical attendance, it was ordered by the GP, by this the unnecessary and parallel treatments disappeared, this way the GP saved the system and all its characters from the extra costs. „The core idea of the US managed care model is that HMOs collect a fixed fee from voluntarily registered clients and offer a pre-defined health care package in return to this population. This is a combination of both insurer and provider. In the UK system, as defined by the NHS Community Care Act 1990 GP fundholders were doctors working in general practices (family doctors). The

individual GPs opted for his/heir practice to manage its own funds, rather than controlled by a local health authority. The size of the fund was calculated on a per capita basis, using past experience for a large pool of hundreds or thousand people. The success of both models derives primarily from the rigorous management of doctors, the control of referrals, the use of protocols, aggressive case and cost management." *(Mihályi 2003a:10)* Accordingly the GP led the patient path with his/her gate-keeper function, reducing the further costs originating from the asymmetric information *(Akerlof 1970)*. „Financially, the budget of the co-ordinator is defined according to the population covered, rather than the extent of the service provided, as under a classical HDG mechanism. In addition, the co-ordinator has discretion in the use of any surpluses; these, for example, can be used for remuneration or investment purposes, thus providing incentives for efficiencies in the coordinator's own activities as well as the providers it contracts with. As elsewhere, a key aim in introducing managed care is to induce efficiency gains through better co-ordination between primary and secondary care, notably through better »gatekeeping« by doctors" *(OECD 2005:79)*.

The general practitioners had an automatic incentive to save, originating from the nature of the system, because they had a share from the savings. They received thorough information about patient paths and had an important function in prevention. Their role and prestige increased in the MHCS. Outpatient departments also had their share from savings, which facilitated an internal control, the cooperation with general practitioners brought about external control for them. Hospitals also received support from the savings as they were also taking part in the healing process. A sharp decrease in moral hazard was the most prominent in this field. Patients also preferred the MHCS, because prevention was emphasized. Local governments also supported the MHCS, since it took over several of their tasks automatically. This relation-system induced incentives in maintaining and financing managed care for each participant. The introduction of the MHCS created managed competition and yet, equity was still dominating as opposed to competition and efficiency. As every participant was interested in realizing savings, and the treatments prescribed did not result in overuse or underuse of health care services.

The other main character of the MHCS was the case manager, who was interested in the optimalization of the patient paths. The case manager accomplished the provider and financing function - the insurance stayed at the NHIFA – these two were not separated in the MHCS.

The basic task of the case manager was to allocate the savings in a reasonable way, to strengthen the outpatient care, to decrease the numbers of the treatments enlisted unduly, to execute the control of the patient paths. From 2004 the case manager's function was concretized and completed by a measure. According to this the provision manager's main tasks were the coordination, the composition of the prevention reports, the management of the amount arriving at the virtual account, to establish and maintain further managed care institutional units at their territory, to establish the requirement system of the quality assurance and finally to complete its obligation to provide data towards the NHIFA.

The case manager fell out of the system together with the patients if he/she produced deficit during three consecutive months. The case managers could achieve a surplus in income, deferring in rate, which they allocated in the health care system. The amount of savings showed high deviation by regions, the reasons for which have not been recovered by thorough empirical analysis. To deal with the end-of-the-year losses made by some case managers, a special fund was set up in 2003. It fully compensated for the losses of the case managers who could not save from their resources. The fund contained equalization grants.

The tasks of the case managers were regulated by law, not shaped by the processes of the market. Their most important task was to provide the population with the highest level of health care services from the amount in their virtual currency account. The fact that the country was divided into regions made it possible for local health care problems to come forth and these problems were dealt with adequately. In the Hungarian MHCS the case managers' role was to provide services and organize, while the role of NHIFA was financing. The case managers' duty included: the thoughtful allocation of savings, consolidating the outpatient service, cutting back on the number of unjustified treatments, working out a control system for tracking patient paths. A regulation in 2004 specified and also expanded the case manager's function. According to that, the case managers' main tasks were coordination, writing prevention reports, handling the virtual currency account, creating and managing new managed care organizations, setting up requirements for quality management, and they also had to send the required data to NHIFA.

Also called compensatory fund was established in 2003, it was a special financial fund to handle the incidental loss of the case managers at the end of the year. From this fund the loss of those case managers was compensated who could not gain saving from the income resources. Therefore the competition did not abolish the solidarity among them.

The case manager had a so called "virtual account", to which the NHIFA transferred the amount determined by the financing formula based on the risk adjusted quota, from this amount they had to finance and develop the health care for the patients belonging to them. This was the name of the case manager's special accountancy. If he/she reached saving at his/her virtual account at the end of the year, according to the law this amount could have been paid out, which was real money.

The amount of the quota was modified in every year, it was determined as the following. First of all those data were collected that actually can be used from the same period of the previous year (the number of population in the distribution according to sex and age). These could be easily procured from the database of the Hungarian Central Statistical Office. Following this the population drawn into the MHCS was divided into 8 age groups on the basis of sex, and then they ascertained how much the general practitioners had spent on the certain sex and age group in the same period of the previous year. To calculate precisely the quota, an index number was created, which was counted on the basis of the ratio of the real payment and the estimate of the certain health care in the previous year (final payment divided by the amount of the estimated future payments). Separate index number was assigned to each group based on the sex and age. Finally the certain index numbers were assigned to the categories divided into sex- and age groups, this way they got the final indexed head quota.

From 2005 the finance of the dialysis was made in retrospective form. This meant that 8 age group. 2 sex and 2 dialysis variables were effective, therefore the financing chart of the MHCS could have been divided into (8x2x2=32) 32 cells. The financing based on the quota was counted on the basis of retrospective calculations. 7,5 % of the amount devoted to the treatments belonging to the dialysis gist was expended on acute dialysis and 92,5% of it was expended on chronic dialysis – these two were financed on the basis of different quotas.

The most important aim of the case manager was to organize the best level of health care to the population from the amount that could be found on his/her account. The most important difference between the MHCS and the PHS was that if the case manager saved money well, certain rate of the saving could be invested in the system. Therefore the saving was not taken out of the health care system, but it was spent on modernization and innovation.

Even in the first few months some profit disappeared on the virtual account of most of the case managers, which came to stay with bigger or smaller differences. There were also that kind of case managers, who demonstrated deficit, but the average made profit at every end of the NHIFA year. (In the MHCS the budget lasted from the 1 October of the certain year to the 30 September of the following year.) We would like to emphasize again, that the MHCS gained its savings without adverse effect in the quality of the health care.

The source revenue of the MHCS included the following items: the amount on the basis of the risk adjusted capitation payment from the NHIFA, prevention fee, organization fee, organization fund, central budget extrafinancing, and other applications. The PHS was maintained from more resources than the MHCS and despite of this the PHS always closed the year with deficit, while the MHCS provided the care from less money and it could provide savings. In the MHCS the income from the NHIFA was determined according to the account formula based on the risk adjusted capitation payment *(Nagy – Brandtmüller 2008).*

Table 2

Financing of the Hungarian MHCS
(million HUF, 1 EUR= 295 HUF)

NHIFA Year	Revenue	Expendi-ture	Save	Organi-zation fee	Preven-tion fee	Organi-zation fund	Expendi-ture /revenue (%)	Balance /revenue (%)
1999	1774	1711	63	0	72,4	0	96,45	3,55
2000	4402	3943	458	0	73,2	0	89,6	10,4
2001	16691	15851	840	121,7	222,4	0	93,46	6,54
2002	31042	28331	2711	101,3	227,6	0	91,27	8,73
2003*	42512	41060	1452	64,1	279,7	1,1	96,58	3,42
2004	34280	33025	1255	424,2	592,4	262,7	96,33	3,67
2005	176661	172951	3710	643,3	1114	262,7	97,9	2,1
2006	173993	169029	4964	104,4	311,8	0	89,99	10,01

** in 2003 the saving dropped to such a great extent, because the ratio of new members increased sharply. They only had three months left to make a profit. It obviously proved to be too short time to boost savings.*
Source: National Health Insurance Fund Administration, State Audit Office of Hungary, Ministry of Finance, and Hungarian Central Statistical Office.

The total detachedness of the funds could be experienced in the PHS, which caused serious financial loss. However in the MHCS the separate funds were merged, the financing polarization was pushed into the background. If the money began to decrease from one of the funds and it could be foreseen that the other fund was not going to be emptied by the end of the budgetary year, money was regrouped in a rational way from one fund to the other to avoid deficit. For example if the money began to decrease in the subsidy on medicaments fund it was compensated from the fund for outpatient care. This financing logic did not work in the PHS *(Boncz et al 2004).* In some areas the fund had deficit, others had surplus that is why they had to be merged, this way the health care became managed, well-organized, and could be financed and not necessarily needed more resources. The efficiency of the resource allocation increased rapidly in the MHCS *(Table 2).*

Consequently the MHCS meant such a medical attendance organization where the integration of the finance of the services was worked out in 90%. According to this such resource allocation mechanisms could be used with the help of which the resources could be allocated more effectively among the different levels of the medical attendance

In the MHCS prevention fees were given exclusively to those case managers who made a prevention plan at least one year in advance and they handled it to the NHIFA till March of the certain year. This was a quite detailed program, which contained not only the preventive aims, but also the equipments, methods, and budgetary plans belonging to that. If the preventive program was judged by the NHIFA as they could be achieved, the case manager received a prevention fee which exclusively covered the aims and equipments determined in the project.

First the amount of the prevention fee was 1000 HUF/ person/ year, but this amount was divided in 2001 and the case manager got 500 HUF prevention fee and 500 HUF organization fee each year after every patient (1 EUR = 295 HUF). According to the budgetary law in 2002 the preventive activity was changed again, the case manager was authorized only for an organization fee as much as 200 HUF/ person/ year. The prevention fee was granted for two years and the organization fee was granted for one year. The NHIFA granted the prevention fee quarterly and the organization fee monthly to the virtual account of the case manager. For 2005 the prevention fee was determined in 600 HUF/ person/year.

In the MHCS the organization fee was defined as an amount for the extra work occurring during the coordinating, organizing and planning work. The case manager was entitled to the organization fee if he/she completed the following activities: to develop the IT system, to support the establishment of the IT systems, to preserve the number of patients belonging to him/ her, and to increase the number of them, to retrieve the praxes joining later as new ones in connection with the data providing and the finance of the costs regarding to the sending the reporting obligations. The condition of the transfer was that the management as the head of the MHCS had to be full time workers. The acceptable spending of the organization fee and the prevention fee had to be proved by invoices to the NHIFA, and these invoices were controlled in every half year. The organization fee and the prevention fee were irrecoverably abolished from 1 January 2006 referring to the decrease in the resources. In the same year the medical attendance of the GP was taken out of the MHCS.

Specifically the IT structure of the health care could be developed from the fund for the case manager and to maintain the stabilization of the number of people. During the 10 years altogether 526.5 million HUF was put into this fund.

If the case manager had saving, he/ she could not keep all of it, only part of that. The allocation was ruled by law, and, of course, government. At the beginning if the 10 per cent of the income or less was saved in a year, only 80 per cent of the amount could be allocated, the remaining 20 per cent had to be remitted back to the NHIFA. If the saving reached the 10 per cent or it was higher, then the 80 per cent of the 10 per cent, and 50 per cent of the saved amount over the 10 per cent could be invested again into the MHCS. The reallocation had degressive rules to avoid the decrease in the quality of the patient care. The GP became interested not in increasing the number of people getting into the MHCS and curing them in a cheaper way, but was interested in that the population belonging to him/her should

have stayed healthy by the preventive care in order not to require medical care. It is easy to see that the healthy man is not a financial burden for the health care system.

From 2007 the rules of the allocation was aggravated and if the case manager had saving as much as 10 per cent of the income or less, only 30 per cent of this amount could be allocated instead of the earlier 80 per cent. If the saving exceeded the 10 per cent, the 30 per cent of the part up to the 10 per cent, and the 25 per cent of the amount above could be allocated instead of the earlier 50 per cent. This significantly reduced the quantity of the resources that could be allocated, with this in a logical way, the incentive also decreased. The interest system was restructured and motivation decreased.

Several studies criticized that in the MHCS it was not difficult for the case manager to save money, because he/ she ab ovo managed with more resources than the PHS. This statement is not true, namely they could save money thank not to the higher amount of support but to the more rational way of economy. The members of the MHCS gained their incomes from several resources, but their total value was less than the income of the PHS, which received money only from one institution, from the NHIFA. A lot of people think that the MHCS gained more money from more resources. Contrarily to this the fact was that although the MHCS got money from more places, it gained less money than the PHS. The PHS could not save money from the higher amount, it showed 137785 million HUF deficit in this period. Although the MHCS managed from less money, it gained 17767 million HUF during the mentioned ten years *(Table 3 and 4)*.

Table 3

The health revenues per capita in MHCS and PHS
(million HUF, 1 EUR=295 HUF)

Total health revenues per capita in MHCS (HUF)							
Year	2000	2001	2002	2003	2004	2005	2006
General practitioner's and family paediatrician's service	3246,96	3621,6	3992,91	4997,1	3144,07	39,96	0
Dental services	1032,05	1141,59	1588,01	936,26	846	1289,55	1623,79
Dispensaries (from 2004)					109,44	177,5	227,32
Outpatient care	5127,86	5914,37	7301,31	7570,95	5630,66	8947,03	11740,63
Inpatient care	20160,77	22580,55	29826,15	28716,19	20098,04	32974,75	41074,9
CT and MRI	720,36	786,92	830,84	1030,06	638,66	988,94	1277,25
Dialysis	1005,02	1115,64	2561,38	2916,97	960,91	1489,06	1890,91
Home special care	131,24	140,07	155,25	215,45	162,02	250,79	307,49
Transport of patients (from 2004)					364,3	544,17	661,14
Subsidy on medicaments	13265,82	15128,47	22519,18	21919,46	15300,38	26547,17	38599,03
Subsidy on therapeutic appliances	2244,84	2312	2854,74	3258,47	2561,85	3850,33	4991,13
Spa service	232,7	366,9	451,36	405,72	289,45	423,7	549,56
Prevention fee	728,42	467,57	477,61	288,71	313,67	448,7	184,5

Organization fee	0	255,86	212,57	66,16	224,61	282,2	61,77
Central budget extrafinancing	2966,25	832,97	938,44	1050,7	930,96	182,62	0
Organization fund				1,13	160,2	262,7	102,5
Total	50862,29	54664,61	73709,75	73373,33	51735,22	78699,17	103291,9
Grand total from 2000 to 2009							486336
Total health revenues per capita in PHS (HUF)							
Year	2000	2001	2002	2003	2004	2005	2006
General practitioner's and family paediatrician's service	3312,8	3617,2	4166,3	5199,4	5269,1	5435,6	0
Dental service	1309	1676	2065,9	2091,7	2141,7	2142,6	2168,7
Dispensaries (from 2004)					1247,06	1378,88	1122,18
Outpatient care	5113,9	6283,1	7326,6	8007,3	9850,1	11187,6	10802,3
Inpatient care	21660,2	24332	28330,8	29912,6	36034	39327,2	38728,8
Dialysis	1034,9	1129,6	1310,6	1591,1	1602,6	1673,3	1699,8
Home special care	130,8	142,7	168,1	226,9	285,4	294,1	288
Transport of patients (from 2004)					743,59	802,78	748,31
CT and MRI	716,8	772,3	876,3	1073,3	1038,1	1115,9	1102,8
Subsidy on medicaments	15042,36	18545,63	21553,53	25467,21	35117,12	44627,07	46348,73
Subsidy on therapeutical appliances	2265,07	2570,98	2981,46	3810,66	5223,83	5644,85	5158,08
Spa service	297,98	391,62	414,5	438,21	590,77	608,65	615,62
Total	50883,81	59461,13	69194,09	77818,38	99143,37	114238,5	108783,3
Grand total from 2000 to 2009							579522

Source: National Health Insurance Fund Administration, State Audit Office of Hungary, Ministry of Finance, and Hungarian Central Statistical Office.

Table 4

Soft budget constraints in PHS, the health revenues and expenditures of PHS
(million HUF1 EUR= 295 HUF)

	Revenues in 2000	Expendi-tures in 2000	Balance in 2000	Reve-nues in 2001	Expendi-tures in 2001	Balance in 2001	Revenues in 2002	Expendi-tures in 2002	Balance in 2002	Revenues in 2003	Expendi-tures in 2003	Balance in 2003	Revenues in 2004	Expendi-tures in 2004	Balance in 2004	Revenues in 2005	Expendi-tures in 2005	Balance in 2005	Reve-nues in 2006	Expendi-tures in 2006	Balance in 2006
General practitioner's and family paediatrician's service	36607,7	36608,1	-0,4	41137,6	41137,6	0	45453,2	45453,1	0,1	58105,7	58105,7	0	60221,6	60221,5	0,1	62932,7	62917,1	15,6	63355	63354,6	0,4
Dental service	10410,4	10410,2	0,2	12076,4	12076,4	0	16198,8	16198,8	0	20496,2	20496,2	0	20994,4	20994,4	0	21689,6	21688,9	0,7	21665,4	21665,3	0,1
Dispensaries (from 2004)	0	0	0	0	0	0	0	0	0	0	0	0	10261,2	10261,1	0,1	10469,4	10460,4	9	9411,5	9411,4	0,1
Outpatient care	51607	51620,1	-13,1	61260,1	61260,1	0	72923	72923	0	96528,7	96528,7	0	103475,4	103475,4	0	108584,8	108575,8	9	91454,1	91454,1	0
Inpatient care	214199,6	214240,3	-40,7	240617	24617	0	274072,1	274072,1	0	286076	286076	0	370688,8	370688	0	395155,7	395174,5	-18,8	403749,5	403749,5	0
CT and MRI	7057	7057,7	-0,7	7842,1	7842,1	0	8492,2	8492,2	0	10734,6	10734,6	0	10668,9	10668,9	0	11119,2	11119,2	0	11939,6	11939,6	0
Dialysis	10143	10143	0	11606,4	11606,4	0	13061,2	13061,2	0	15895,8	15895,8	0	16118,9	16118,9	0	16774,9	16774,9	0	17139,7	17139,7	0
Home special care	1274,4	1274,4	0	1462,8	1462,8	0	1587,1	1587,1	0	2235,8	2235,8	0	2737,2	2737,2	0	3091,6	3086,1	5,5	3103,5	3102,8	0,7
Transport of patients (from 2004)	0	0	0	0	0	0	0	0	0	0	0	0	6118,4	6118,4	0	6276,2	6276,2	0	6275,9	6275,9	0
Subsidy on medicaments	141000	150751		147000	179464,6	-32464,6	153000	209033,1	-56033,1	278000	233796,01	44203,99	239904,9	288949,6	-9044,7	284000	348869,1	-64869,1	402950	388710,8	14239,2
Subsidy on therapeutical appliances	20582	20589		26001,9	25002	999,9	26654	28915,2		34956,7	34957,5	-0,8	44600	42982,6	1617,4	45200	44131,7	1068,3	48640	48527,3	112,7
Spa service	2000	2986,33		2759	3951,9	-1193,9	3250	4020		5435	4464	971	5708,4	4861	847,4	5708,4	4708,4	1000	5108,4	5163	-54,6
Total			-54,7			-32658			-56033			45714,19			-46580,1			-62742,2			14298,6

Source: National Health Insurance Fund Administration, State Audit Office of Hungary, Ministry of Finance, and Hungarian Central Statistical Office.

In the studied period both in the MHCS and the PHS, the most money was spent on subsidy on medicaments. Basically the reason was that the population began to turn toward the more expensive medicine and the price of these increased dynamically (Stargardt 2008). This tendency appeared in the MHCS too, but this occurred more vigorously in the PHS. The proof is that although the extent of the subsidy on medicaments had to be increased year by year in the PHS, their costs always exceeded the amount of the income, and this established the mechanisms of the soft budget constraints (Gulácsi, Dávid, Dózsa 2002). More money had to be spent on the subsidy on medicaments in the MHCS but here the cost did not exceed the income, they endeavoured to reserve the strict budget constraints (Kornai, 2008, 2009; Kornai, Eggleston 2001). Even though the preventive activities were strengthened, saving was gained in this fund, which increased the medicine consumption. The difference between the management of the subsidy on medicaments of the two systems has not been studied yet with empirical methods. We can state on the basis of the figures we have that in the MHCS the GPs prescribed rather the cheaper generic drugs to the patients, which kept price down, this way they had to spend less on subsidy on medicaments. This process has passed off in the PHS only partially.

Discussion

Saving could be gained in the MHCS because the participants were interested in it, because they received a certain part of the saving as an income, and they could spend another part for development and the rest had to be remitted back to the NHIFA. Modernization could be financed from this. However the PHS was not interested in the saving. Namely if it had had less cost than income it would have meant that it could have maintain its activities from less money, this way the NHIFA would have granted less money next year. The participants of the PHS were interested in making deficit, proving that they need more and more money and this way they increased the income of the next year budget. This is the typical practice of the soft budget constraints *(Table 3)*. In this finance system it was not a problem if deficit occurred because an institution on a higher level (usually the state) boil out it from the financial crisis. There is no limit which would cause problem to exceed, it is not obligatory to keep the financial discipline. The state is able to finance the emerging costs even for a long time. The overspending meant extra source for the PHS, this way it was interested in keeping this. This way it is understandable that in fact the deficit increased the income of the PHS, the saving would have decreased its income *(Boncz 2006)*. This generated a totally different method of management between the MHCS and the PHS. In the MHCS the saving was the elemental interest of everybody, while the elemental interest of PHS was to plan the costs that way that it would exceed its income. A very important difference was between the MHCS and PHS that the method and logic of usage expected different management from the participants, the different interests set the two systems against each other. We have to see that both the MHCS and the PHS was financed by the state through the NHIFA but the PHS was managed on the basis of soft budget constraints, while the MHCS was managed according to managed competition, so on the basis of strict budget constraints. Both had the same goal, which is to keep as much money as they can, with applying totally different financing methods *(Boncz – Sebestyén 2006)*. This situation caused conflict of the interests and tension between the two systems, as it is much easier and more

comfortable to over plan the costs and to increase the income of the following year, than to gain saving by strict and orderly management. To reserve their interests, the participants of the PHS tried to push the MHCS to the background, and they succeeded. They achieved that the disadvantages of the MHCS were exaggerated and its advantages were understated in front of the public opinion *(Rechel – McKee 2009)*.

The MHCS was founded as a civil initiative; it was created to represent the interests of those who believed in the rational solutions and the reforms based on competition. Through the mechanisms of the managed competition they tried to achieve the improvement of the healthcare by savings and not deficit. This approach did not agree with either the concept of the management of the NHIFA or the Ministry of Health, the lobbyists of the PHS were stronger against the representatives of the MHCS.

With the financing method of the MHCS the resource allocation between the funds could be well controlled, the funds could be merged in the interest of a rational management. Cream skimming was not possible because according to the health care law nobody could be closed out of the health care in the MHCS *(Barros 2003)*. In the MHCS it became obligatory for the case managers and the GPs to inform the insured patients belonging to them about their membership in the MHCS, and the patients had to declare whether they would like to be members of the MHCS or not. However the case managers did not fulfil their obligation this way, the finance of the MHCS ceased from the beginning of 2007, its practical operation ended, it existed for another two years only legally. The earlier remitted amounts, which remained at the case managers, had to be paid back to the NHIFA, and the MHCS was abolished according to an Executive Decree on 1 January 2009. We can affirm, however, that it is still rather difficult to introduce a health care system with western patterns into a post-socialist country like Hungary.

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