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Financial Resource Allocation Techniques and Health Sector Payment Systems of Selected Countries: Designing a Model for Iran

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Abstract: Limitation of financial resources in the majority of healthcare systems throughout the world increases the competition in quality, service expansion, efficiency, efficacy and fairness. In response, governments employ different techniques of financial resource allocation and payment systems. The main objective of this study was to compare the variety of techniques of financial resource allocation and health sector payment systems in selected countries to provide a model for health system of Iran. Current operational systems of twelve selected countries were compared and through comparison with Iranian cultural, economy and infrastructure a tailor-made system was proposed for this country. Annual global budget is the basis of financial resource allocation and factors influencing this allocation are municipalities decisions, quality, cost of services, priorities and performance. The calculations of costs are based on estimated costs and payment system are based on pay-for-performance and capitation in the first level while pay-for-performance is the dominant payment system of other level. There is a no significant relationship between factors influencing financial resource allocation and payment systems. This finding is also proved to be true to Iran. Taking into consideration the low GDP and the proportional share of health sector in Iran justifies the combination of capitation and pay-for-performance for the service in first level and pay-for-performance for other levels, as the proper health system to be employed in Iran. This method of financial resource allocation to the health service makes the treatment providing organizations and insurers to bring the tariff of public and private section accordant which finally improves the efficiency, efficacy and fairness in health and treatment system of Iran.

Key words: Financial resources allocation, payment system, health, techniques, selected countries, Iran

INTRODUCTION

Inasmuch as oversight of healthcare services brings forth inevitable nemesis to the communities health level and waste of resources, it has become a strategic product (Karimi, 2004). One of the primary goals of a government's amendment program in healthcare is to control its costs that besides the augmentation of efficacy of healthcare system and quality of provided services will ultimately result in the customer satisfaction (Ahmadvnad, 2006). In the third millennium, healthcare institutions are facing a future where the cost is the main point of focus and other factors are considered less imperative (Rezaei, 2005).

Resource allocation is facing three major challenges in the field of healthcare services namely; the ever-growing costs, the fast-growing technology and the currently increasing world's population (Caldeira da Silva, 1993). Costs, reduced budgets and limited resources seem to be dominant among all these challenge (Khani *et al*., 2005).

The current picture of our country is the increase in healthcare services, the small share of the allocated resources from the revenue, inadequate share of GDP to the healthcare system and increasing costs of healthcare services which altogether awfully marks off resource allocation of healthcare system (Sayari, 1999).

At present, although a higher proportion of GDP is allocated to health sector in developed countries, they face increasing dissatisfaction, long waiting lists and even deprivation from receiving adequate healthcare services (Mohammadinejad, 1999). In the United States, the considerable figure of 15% of GDP is allocated to healthcare services but 45 million Americans do not have any health insurance, the costs are roaring high and some are deprived of emergency facilities. Wise resource

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allocation will bring this situation to a state of decentralized, private and self-governed state. Investments and sagacious resource allocation makes the healthy human goal accessible, increasing development and reducing poverty (Howiit, 2005).

Adequate income guarantees the existence of trained professionals for the continuation of providing acceptable healthcare services to the insured. A sound payment system should be designed so as to stop wasting of resources and providing unnecessary services.

Financial resource allocation is directly related to the improvement of communities health level (Mossialos and Dixom, 2002). WHO (2005) suggested eight strategies for tailor-making financial resource allocation for countries of the Middle East. It introduces the tax system as the base for the financial support of people (Ahmadvnad, 2006).

The problems of developing countries including Iran are allocation of financial resources, privatization problems, providing essential medications, tax system inadequacies and the problematic payment system. For example 70-90% of private sector costs are fulfilled through direct payment in developing countries (Balasubramaniam, 2001).

The aim of this study was to collect the financial resource allocation and payment system characteristics of selected countries for a comparison with the current healthcare system in Iran We also tried to propose a model for healthcare system of Iran from an operational approach.

MATERIALS AND METHODS

This is a descriptive-comparative study. The current healthcare models in selected countries were studied and a model for Iran was proposed taken into consideration its cultural, social and economic infrastructure. Countries were grouped using Jordan's Method devised in 1988. It divides the world's health systems into four groups by their productivity and advantages. The first group encompasses countries with Traditional Sickness Insurance (TSI). The second groups are those with National Health Insurance (NHI). Third group countries enjoy National Health Service (NHS) and the fourth groups are those with Mixed System (MS).

Germany, France and Netherlands were selected from the first group. Canada, Norway and Sweden were chosen from the second group. England, Turkey and Denmark were taken out of the third group and the USA, Japan and Australia are located in the fourth group.

Data were collected from published reports of regional offices of World Health Organization (WHO, 2005), World Bank, Organization for Economic Co-operation and Development, universities, research centers and experts views using the Delphi method. Experts met the following conditions: having PhD degree in the field of health and treatment services management, having a healthcare management background of >1 year at the level of assistant director general, director general or higher in a healthcare insurance organizations or its equivalent.

For statistical analysis the T-test was used to test the hypothesis and $p<0.05$ were considered to be significant.

RESULTS

Ministry of Health and Medical Education (MOHME) is in charge of making decisions in the healthcare system of Iran. Each province has a committee are responsible for these policies locally. Credits are allocated through the program forecasts. More than 70% of treatment-providing organizations are dependent on Medical Universities who are subordinates of MOHME. Of the remaining, 19% are for the private sector, 3% related to social security organization and 8% related to other organizations.

As shown in Table 1, the financial resource allocations are done annually in most countries under study, however, in some countries, the intended budget is also allocated in the form of fixed prospective or cost compensation ways. Flexible budget in some countries are changed in the view of special conditions.

Controlling the allocated budget differs in different governments. As shown in Table 1 the government or as in Sweden (Glenngard *et al*., 2005), the district council (urban) are responsible for such controls. Current (operational) budget is considered as well and allocation criteria might be diverse as in Germany (Busse and Riesborg, 2004) or might be absent in some countries. Operational budgets allocation of a hospital in Germany, for example, requires annual negotiations with the government while insurers, disease society representatives, private insurers and hospital representatives are present. In the United Kingdom (Robinson and Dixon, 2004) as another example, the budget is allocated from the Treasury to the Ministry of Health to local main health offices to regional health offices and finally to hospitals. In Turkey (Savas *et al*., 2002) hospitals send their requests considering the costs and inflation rate to the provincial directors and thereafter to the Ministry of Health. In an assembly including the minister of health, the sum of requested budgets are decided and sent to the parliament to be

Table 1: Comparison of methods and criteria for financial sources allocation in selective countries

Country	Allocation method	Budget flexibility	Budget control	Allocation criteria for operational costs
Germany	Total budget in the form of annual sum	Flexible (in special condition)	By state officials	1) Quality of services 2) services treasure 3) function 4) number of popul ation covered 5) level of providing the services
France	Annual future-viewing fixed budget	Flexible	By government in national level	There is no special criterion
Netherland	(global)	Flexible in case of economy of use	By officials of central government	1) availability of services 2) capacity 3) services volume
Sweden	Annual total budget	Flexible for patients outside limit	By district councils (civic)	Based upon the view of district councils
Canada	Annual total budget (global)	Not flexible	By state officials and health ministry	With regard to amount of estimated expense
UK (United Kingdom)	Annual total budget (global)	Flexible (in special cases)	By regional and district health offices	Based upon the priorities and limitation
Turkey	Annual total budget (global)	Not flexible	By health ministry	Based upon the occurred expenses and the inflation rate
US (United States)	Annual total budget (global)	Flexible	By federal government	A fixed mechanism is not dominant
Australia	Annual total budget (global)	Not flexible	By state government	It is variable based upon the method of reference and the kind of patient's insurance
Japan	Annual total budget (global)	Not flexible	By government	By considering the request rate and the government agreement
Denmark	Annual total budget (global)	Flexible	By municipality	Based upon the view of councils and municipality
Norway (Johnsen, 2006)	Annual total budget (global)	Flexible	By municipality	Based upon the view of councils and municipality

Table 2: Comparison of payment method of different health system section in selective countries

	Payment system			
Country	Physicians	Drugstores	Hospitals	Health unit
Australia	Salary/fee for work (limited agreement)	Case combination based on DRG	Case combination/fee for work	Budget and salary
UK	per capita	Fixed rate	Fee for work and fixed rate	per capita/ fee for work/extra payment
Canada	Fee for work	Fee for work	Fee for work and fixed rate	Compensatory payment
Denmark	per capita and fee for work	Government subsidiary	Total budget (fee for work)	Total budget (per capita)
France	Fee for work	Fee for work	Total budget /salary	Salary
Germany	Fee for work	Combination	Combination (fee for work)	Salary
Netherlands	Fee for work/per capita	Fee for work	Total budget /fee for work	Budget and salary
Japan	Fee for work	Fee for work	Fee for work	Payment by government (salary)
Norway	Fee for work	Fee for work	Total budget (DRG)	Public budget/ prospective payment
Sweden	(Total budget)/per capita/ salary	(Total budget)/per capita	(Total budget)/per capita/ salary	(Total budget)/per capita
Turkey	Fee for work (global budget)	Fee for work (global budget)	Fee for work (global budget)	Budget and control
US	Fee for work	Fee for work	salary and fee for work	Fee for work/per capita

passed. In Iran (Zare, 2005) resources are allocated annually (globally). There is a significant relationship between factors influencing financial resource allocation and payment systems. This finding is also proved to be true to Iran.

United States has the highest rate of share from its GDP (13.9%) to health sector and Turkey has the lowest (5%). Budget allocation to different components of the healthcare system (physicians, hospitals, medication and health) changes deeply between different governments based on their political and cultural structure. Table 2 shows that payment systems of studied countries have priority for the payment of first level healthcare services providers (health center).

Using this method has been experienced in UK and USA and the following advantages are proven:

- Continuity of Receiving Treatment Services from a provider
- Easy collection of treatment histories and creating data banks
- Eliminating red tape
- Facilitating the controlling mechanism
- Positive effect on rationalizing costs
- Creating satisfaction on implementation of health are treatment systems.
- Improving the quality of preventive services and health in primary levels

In addition to controlling the costs one can also control the amount of the services provided. Experts views on payment systems and their proposed models are shown in Table 3 and 4.

Table 3: Abundance distribution of respondents views and the results of statistical test in

Which choice from the viewpoint of fee for service payment criterion to general physicians is more suitable and applicable?	Respondents views: Completely agreed	Agreed	Indifferent	Opposed	Completely opposed	Average of points	Average of SE	p-value	Acceptance condition
1. Does the selection of fee for service payment system from insurer organization or the payer organization of services cost for general physicians have influence on making expenses logical?	23	6	1	0	0	4.73	0.09	0.000	>75% agreed
2. Does the selection of fee for service payment system from insurer organization or the payer organization of services cost for drugstores have any influence on making expenses logical?	30	0	0	0	0	5	0.000	0.000	>75% agreed
3. Does the selection of fee for service payment system from insurer organization or the payer organization of services cost for hospitals have any influence on making expenses logical?	28	2	0	0	0	4.93	0.04	0.000	>75% agreed
4. Does the selection of fee for service payment system from insurer organization or the payer organization of services cost to the health treatment centers have any influence on making expenses logical?	22	8	0	0	0	4.73	0.08	0.000	>75% agreed

Table 4: Abundance distribution of respondents views and the results 0f statistical test in relation to suggested model

Which choice from the viewpoint of fee for service payment criterion to general physicians is more suitable and applicable?	Respondents views: Completely agreed	Agreed	Indifferent	Opposed	Completely opposed	Average of points	Average of SE	p-value	Acceptance condition
1. Does the selection of payment method to insurer organization or services payer instant of paying to providers of services and payment by mentioned organization to providers have any deserving influence on quality, function, costs and satisfaction of health and treatment system components?	20	5	3	0	2	4.36	0.20	0.000	>75% agreed
2. Can the selection of single tariff between private and public sector have a good influence on quality, function, costs and satisfaction of health and treatment system components?	20	5	1	1	3	4.26	0.23	0.000	>75% agreed
3. Can the selection of model A with regard to country conditions have a good influence on the function of health and treatment system components?	22	3	4	0	1	4.50	0.17	0.000	>75% agreed
4. Can the gradual movement from model A to model B increase the function of the health and treatment system components in desirable way? (in case of being fixed of other conditions)	20	4	3	1	2	4.30	0.22	0.000	>75% agreed

DISCUSSION

To reach a model encompassing the required goals and considering the abovementioned principles, we descriptively and comparatively studied the financial resource allocation and payment systems in 12 countries and found that the structure of financial resource allocation systems is very similar in these countries. Most of them have an annual flexible budget which is influenced by the population under coverage, level of providing services, quality, costs of providing services, current potentials and decision of municipalities and councils. Payment systems of most studied countries for first level payments are based on a combination of pay-for-performance and capitation while a pay-for-performance is mostly used for other levels. We did not find any significant relation between financial resource allocation techniques and payment systems. The root of the problems of healthcare system in Iran not being able to provide acceptable level of services is place in economy.

The primary proposed operational and scientific model (A) was surveyed by experts and the final proposed model (B) was the result (Fig. 1). In the final model, through indirect payment to the organizations providing services and the payment by intermediate organizations (insurer) being a controlling mediator, we can improve the function of healthcare service providers which could only be possible by establishment of one tariff and real capitation.

Regarding the social security organization and military organizations improvement could be achieved through operational budget. At a longer time, purchasing the services seems to be more economical and only military hospitals are exceptions to that.

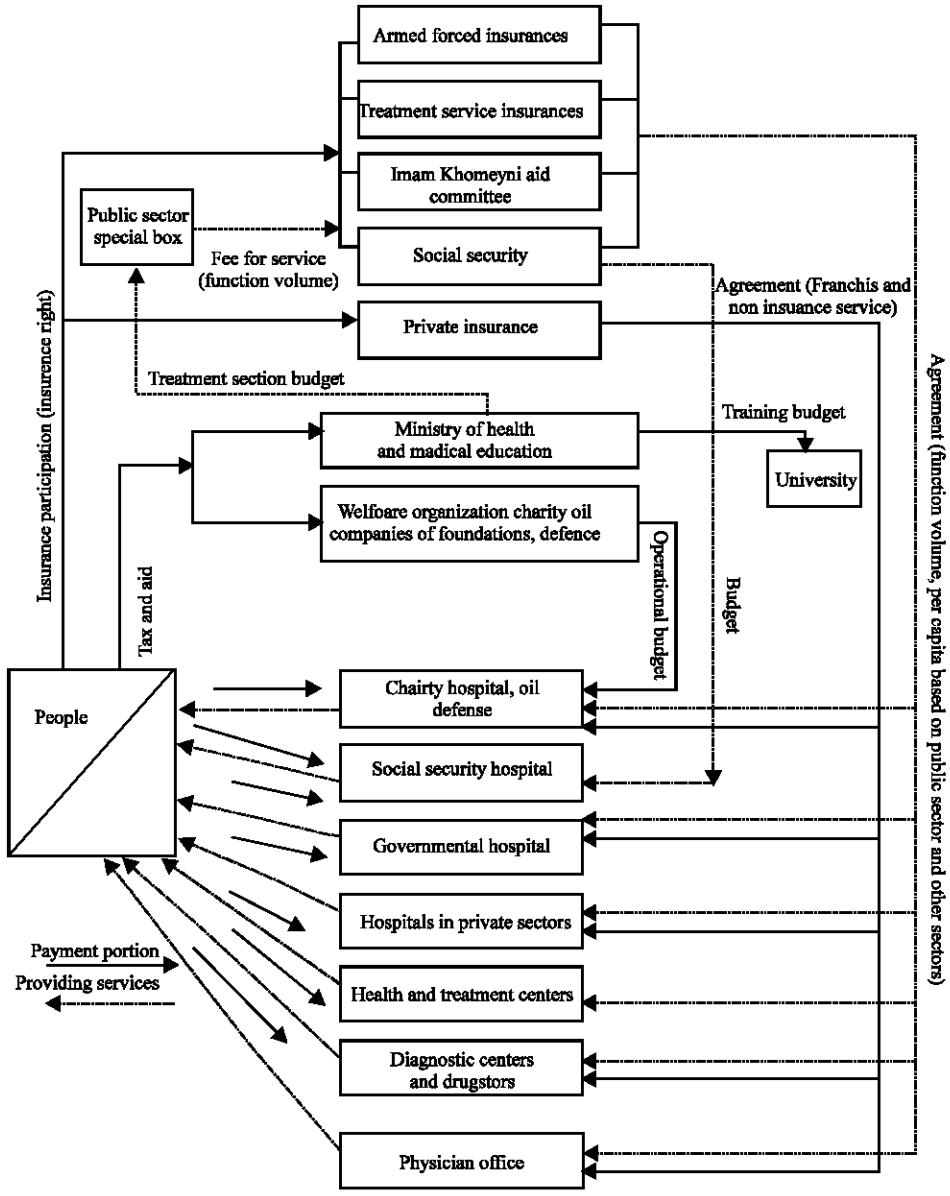

Fig. 1: Final proposed model (model B)

Share of the government could be covered through a particular fund which covers part of the costs. This would be ultimately to the benefit of service consumers and financial supporters. The education budget would be covered separately in the government system and if the education and treatment systems are separated their function could be improved exponentially.

Main specifications of the final proposed model:

- Hospitals are run by its own board of directors or board of trustees
- The same pricing procedures are applied to the public and private sector except in very special situations
- Selling the services to insurance organization in gross scale
- Flexibility of financial resource allocation system
- Decentralization of financial resource allocation system
- Criteria for resource allocation would be quality of services, costs, function, population under coverage, requirements and level of providing services
- Indirect payment to public hospitals by the special fund or through the insurance organizations
- Separation of treating and educating hospitals
- Payment to service providers on the basis of functional volume and through operational budgets

- Taking good steps towards privatization in the healthcare system
- Special focus on disadvantaged areas and the deprived part of the society
- Elimination of extra unnecessary costs from the healthcare system and increasing efficiency
- Creating prerequisites for moving towards the global market including global healthcare market
- Barring personal views in resource allocation
- Competitive environment between diverse sectors
- Observance of service providing principles by insurance organizations that include universality, comprehensiveness, availability, accessibility, portability, centralization and decentralization, affordability, acceptability, information management systems, equity and participation principles
- Implementation of the stratified service providing system
- Extension of the area under coverage by insurers
- Making the capitation real

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