

# Designing a referral system management model for direct treatment in social security organization

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## Abstract

**Aims:** The Social Security Organization is the largest provider of health services throughout the country after the Ministry of Health. Lack of the classification and referral system will lead to treatment withdrawal, patients' confusion, immethodical visits and waste of resources. This study was carried out with the aim of proposing a proper model for the management of patients' referral system in the direct care unit of the Social Security Organization.

**Methods:** This comparative study was carried out in 2009. Two separate meetings of the Expert Panel in developing the proposed model were utilized for codification of the model. Then, the thematic and pivotal codes were extracted through framework analysis and the model was proposed according to the research objectives and research findings. This model was approved by experts through three rounds of Delphi method.

**Results:** The classification of services and patient referral system is more comprehensive in US, Canada, Britain, South Korea and Chile due to the presence of national medical system. The referral system is not followed seriously in France. In Austria, there is a universal social insurance structure, but the social insurance system has been partially applied in Turkey. The patient referral system hasn't been performed in the direct care unit of the Iranian Social Security Organization and only the Patient Guidance Staff is responsible for referring the patients to specialized services.

**Conclusion:** The proposed model of managing the referral system in this study is based on a semi-open referral system and the constant presence of family physician with voluntary membership. Financial leverage is used in this model for optimal administration of the referral system.

**Keywords:** Referral System, Direct Care, Social Security Organization

## Introduction

Social security organization is a social insurer organization whose main task is to cover salary-based and hired workers (obligatory) and free owners of occupations (voluntarily) [1]. Insurance affairs and medical services in social security organization are done in two separate sections known as insurance section and medical section. Insurance section undertakes the responsibility of covering population, collecting revenues, and preserving records. After this, by devoting financial resources, medical portion which is one third of insurance fee, the medical section of the organization provides the medical service to the insured. At present, medical undertakings are done in two ways:

- 1) Direct treatment method using all medical equipment owned and leased by the organization;
- 2) Indirect treatment method through purchasing doctor's services, those of groups of doctors, public, university and private hospitals [2].

At present, the provision of medical services in the organization is done through medical notebook. This

notebook reveals the identity of the insured when referring to the property of the organization's medical centers. The services of these centers (direct treatment) are gratis. But in the centers which have signed a contract with the organization, the insured should pay the franchise cost after providing the medical notebook.

The important problem concerned with direct treatment of social security is that practically in the provinces, referral system management is not observed and those insured by the social security can use almost limitlessly the services of direct and indirect treatment simultaneously at all specialized levels using medical notebook. This issue naturally makes the possibility of patient's guidance and reference difficult and leads to the patient's confusion, in addition to the increase in costs. Also, this complicates (the possibility of) planning for the provision of medical services and the creation of a health file and all in all, leads to both organization and patient's detriment [3].

Inappropriate self-references, lack of confidence in protecting in middle levels, the lack of enough

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information stream, inappropriate support and training are among the weak points of referral system in Iran [4]. With respect to non-official statistics, around 60% of payable medical costs in Iran are paid by people themselves [5].

In 2006, the facilities for direct treatment included 273 on-the-spot medical centers and 75 hospitalizing medical centers together with 8098 active (hospital) beds [6]. Therefore, social security organization has the most number of hospital beds, after the Health Ministry and is considered the second producer of medical services and their provider in Iran. Between 1997 and 2001, the portion of hospital costs out of the organization's total medical costs had increased from 59% to 66% which led to the authorities' anxiousness [7].

This massive volume of facilities and services requisites for the organizing of the treatment affairs of the insured by the organization itself through designing a referral system and managing this system among property centers from clinical and poly-clinical ones to specialized and super-specialized hospitals. In fact, the organization manages the patient's referral to different medical levels.

Referral systems are designed rather easily but are extremely difficult to be implemented. The functionality of referral system depends on the patient's belief in different levels of health system and their confidence in the staffs and also on the efficiency of informatics system, the ease or difficulty of transportation and the cost of different levels of protection [8].

*Karimi* proposes the creation of health file to refer patients in the rural areas and emphasizes that the services provided by health centers should be free so that the rural can benefit from insurance services, paying lower than those living in the cities [9]; But *Ebn Ahamdi* emphasizes on paying attention to family doctor, the government's prominent role in providing financial resources for providers of healthcare services and to supporting the society's vulnerable people [10].

*Ehara* et al. discovered that reference is more widespread in places where the managers emphasize on the importance of referral system. They also observed that the establishment of efficient information system and training patients and staff are necessary to better manage the referral system [11].

At present, there is no organized system to guide and refer patients in the organization's direct treatment section. The only information office, i.e., the head medical office for receiving and distributing patients, intervenes directly in receiving and distributing patients. This office started its operation in 1989 in

Ayatollah Kashani hospital, in the course of executing article 57, item 5 of article 62 of social security rule, to make patients' admission and distribution efficient. The then medical deputy of the organization declared to all the centers located provinces the procedure for establishing and describing the organization's tasks, according to the circular of the number 14.3019 dated 2nd May 1994 [12].

According to article 1 of the execution procedure, dispatch unit of such a headquarters should be formed in all Iran's townships and provinces and preferably operates in the most advanced property hospital equipped with sufficient communication facilities and in official working hours. According to the Note 1 of the same article, the mentioned headquarters is only on duty round the clock in Tehran province because of facing the most admission and patient dispatch and also the wide expanse of work area [13].

After being approved to establish the head medical office in Tehran province, approved orders and execution affair office of this organization were separated from the head medical office and were joined to the head medical office complex of Tehran province; but the headquarters affairs, including planning, organizing and coordination are still done by direct head medical office.

In practice, the office of information, admission and distribution of patients has limited functional area and only plays a role in transferring some patients from township to Tehran. As such, there is no referral system in within provinces (for example, between its clinics and property hospitals) and those insured by social security organization can use almost limitlessly the services of direct and indirect treatment simultaneously at all specialized levels using medical notebook. This issue naturally makes the patient's guidance and reference difficult and confuses the patients in addition to increasing the costs. It also challenges the possibility of planning to provide medical services and creating health file and is not to the patient's and organization's benefit.

With respect to the fact that the social security organization is the second provider of medical services in Iran, and with respect to the prevalence of direct treatment section of the organization, also the legal responsibility the organization holds in this regard, this research tried to offer a practical pattern and appropriate for managing patient's reference under the protection of social security in direct treatment section of the organization, by comparing comparatively referral system in several different countries and also by obtaining the perspective of different groups involved in this, in particular experts

in health section.

## Methods

The current research is a practical study which was done in 2008 in a qualitative, comparative and cross-sectional fashion. In different sections of investigation of texts, documents and related articles, interview, expert's conference and Delphi techniques were used. Selecting countries was done using purposeful sampling and went until the samples were full. In total, 8 countries were selected and the medical section of Iran's social security organization was investigated. Overall, this research was done in two stages:

**Study stage:** At this stage, first library studies were done to inform the researcher of previous works in this area inside and outside Iran. Then, during a comparative study, the management of patients' referral system in the selected countries' insuring organizations was recognized (up to the samples were full) and was compared with the present status of referral system management in direct treatment of

Iran's social security system. The method used at this stage was to collect documents and its outcome was the comparative table comparing medical system management of 9 countries. The main items of this table were in harmony with the main objectives of the research.

**The stage of offering a pattern and determining validity:** At this stage, a pattern was offered using the first stage data which is desirable based on the social security status (Table 1). Before entering this stage, 2 specialized meetings (expert's panel) were held to investigate results from comparative study and obtain their viewpoints about the proposed framework of the pattern. To do so, the proposed framework of the pattern, which was derived with respect to existing problems and the results of comparative studies, was brought up for discussion among 3 experts in the form of axes of half-structured questions and as such, their viewpoints were extracted. The discussions among the two panels were recorded, implemented and summarized and led to the formation of a pattern using theme synthesis.

**Table 1-** Referral system in the organization among selected countries

The countries under investigation	Referral system in the selected countries
<b>The US Health Maintenance Organizations (HMO)</b>	Health maintenance organizations are a kind of health protection coverage in the US in which the Primary Care Physician (PCP) decreases access to the services and if necessary, patients are referred to other physicians and specialists with respect to HMO guidance.
<b>France's social insurance organizations</b>	In France, people will be covered mandatorily by a kind of mandatory insurance and most of them are also under the protection of complementary insurance. They are free to choose their own physicians. Referring to the specialized physicians needs to previous reference.
<b>Canada's general insurance organizations</b>	In this system, the first point of contact between people and healthcare services at the first level is usually family doctor and in case the family doctors are not able to treat the patients, they will be referred to higher-rank centers, including public or private hospitals or to specialist physicians.
<b>Austria's social insurance organizations</b>	In Austria, all people are under the protection of the mandatory social insurance.
<b>Turkey's social insurance organizations</b>	The family doctor inspects the patients and provides the needed treatment and if necessary, refers the patients to the specialists or to the second and third level of services in the healthcare system and receives from them the necessary information.
<b>England's National Health System (NHS)</b>	The most important element of referral system in this country is general practitioners or GPs who if necessary, refer the patient to the drugstore to receive medicine or to the hospital to do specific tests or to the specialist physicians. Specialist physician can refer the patient to the specialized hospital to be hospitalized or refer to another general practitioner so that on-the-spot inspections are done.
<b>South Korea's National Health Insurance</b>	Referral system is comprised of three levels of services and although, patients should be referred to higher-rank levels through referral system, there exists freedom for patients to decide about service providers.
<b>Chile's National Health Service</b>	In fact, NHS is the Chile's overall system and not a selected organization from its health system

The offered pattern was given to 25 experts and opinion-holders in healthcare issues who were familiar with the features of social security organization so as to criticize and determine its validity. Although the number of people existing in Delphi panel was different, depending on the subject's domain and

perspectives of the participants, in total, most references declared the presence of 20 experts as sufficient.

This stage was done with the aim of gathering (agreeing) viewpoints about initial pattern and its transformation to the proposed pattern. The data was

collected in a field manner. In this stage, a questionnaire was used whose validity was confirmed using test and post-test method ( $r=0.8$ ). The questionnaire was sent to the participants using email (and if not available, it was delivered in person) and they were asked, by a formal letter, to express their views about the pattern in the questionnaire, in addition to introducing the researcher and describing the research objective.

To facilitate this stage, Likert spectrum, scaling 1 to 9, was used at three levels of opposed, medium and agreed. Eventually 75% of the opinions expressed agreement. Each one of items which succeeded to achieve 75% of agreed opinions of the participants was admitted as the final pattern. In other cases, the people's opinions were sent to all participants without mentioning the names in the next round of Delphi and they were asked again to express their views with respect to the proposed views. This trend was repeated until (third round) the participants' views were fixed and without change and as such, consensus was reached.

In this regard, the issue was explained for all people concerned. Interviews were accomplished with permission and confidentially and when analyzing findings derived from interview sections and also from expert's meeting, the people's names were eliminated. The method of choosing countries: Since this comparative study was done to offer a pattern in the direct treatment section of social security organization, the priority in choosing was for countries which possessed insuring organization which are themselves providers of medical services or use an agreed pattern to refer patients whose experience can be used to evolve the pattern. After consulting experts, a sample of countries was selected in a purpose fashion for this study with respect to the variety of medical systems and then the study on it began. This study continued until the sample was full which, in total, led to the study of health organization of 8 countries, the US (the organizations related to maintaining health), France (France's social insurance organization), Canada (Canada's national health system), Austria (Austria's social insurance organization), Turkey (Turkey's social insurance organization), England (national health system), South Korea (national health insurance) and Chile (national health services).

To analyze the findings of this stage, the method of framework analysis of qualitative data was used. In a way that researcher at first studied exactly the findings of qualitative studies. Then, subject framework was formed with respect to the research's specific objectives and the subjects were indexed under the

main titles. Conceptual framework was time and again revised during performing analysis. The initial framework included 9 concepts which were designed according to the specific objectives of the research. These rubrics remained virtually unchanged but the subgroups of each of these conceptual components suffered some changes during this process. Eventually, the diagram was used to demonstrate the relation among main themes.

## Results

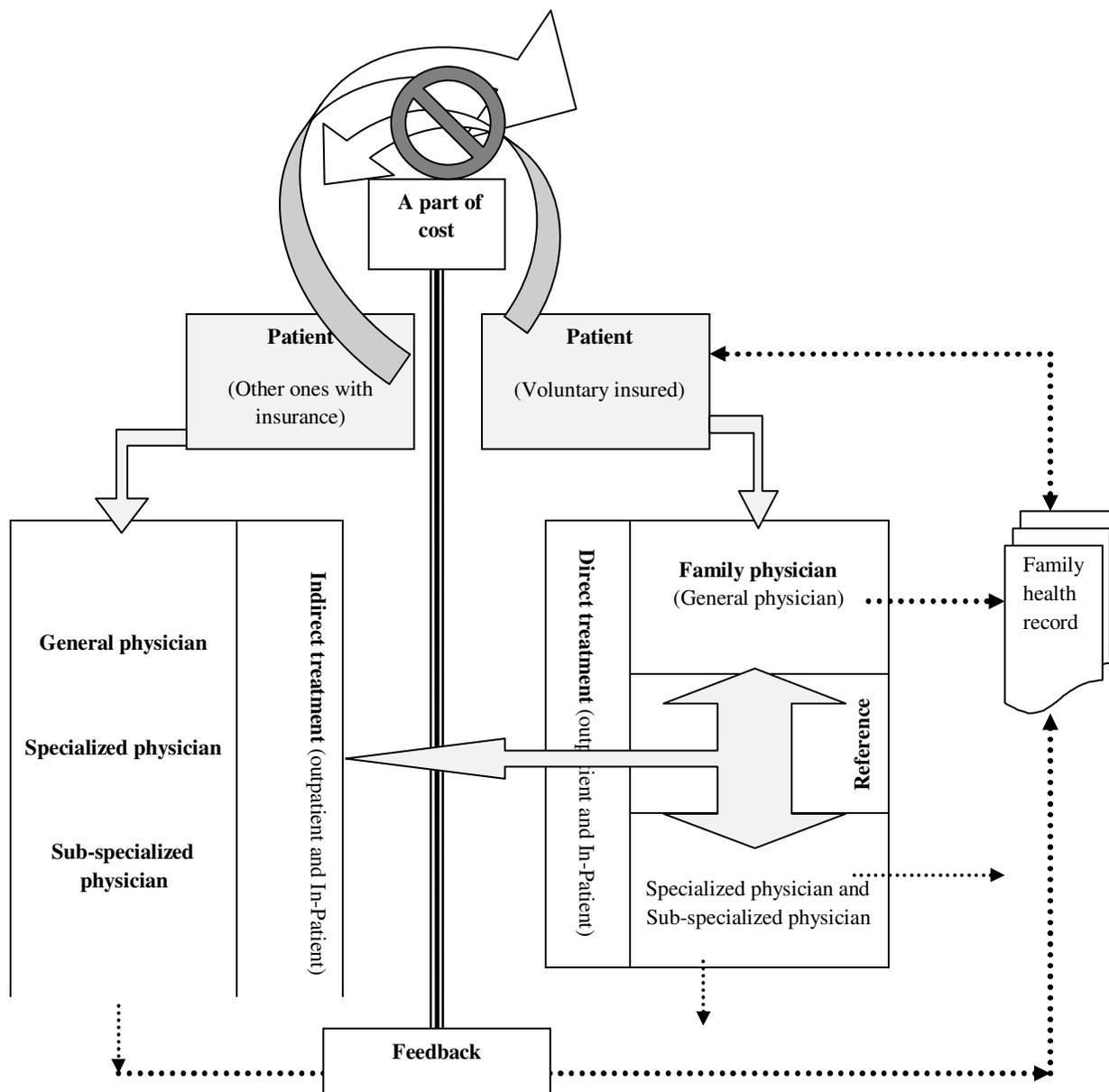
**A) Results derived from comparative study among selected countries:** On the basis of results from comparative study among selected countries, there are a variety of referral systems. In health maintenance organizations in the US, there is a closed referral system which tries to provide health services to the people under its coverage with the least cost, relying on preventive and health-based service. There exists a national health system in the UK, Canada, South Korea and Chile which is based on the leveling of services, referral system and family doctor. However, in England and to a lesser extent in Canada, there are seen some flexibilities which have led to the creation of private medical centers outside the public referral system and their goal is to increase people's satisfaction, and to decrease the complains concerning long waiting lists so as to receive services in these two countries. In France, the referral system is not real as such and only exist limitations for the excessive use of the services. France, Austria and Turkey have insurance system based on the health social insurance. These organizations are more widespread in Austria than the rest countries. In Turkey's social insurance organizations, family doctor is the first person who inspects the patient and provides the required treatment and if needed, refers the patient to the second and third levels of services. Table one demonstrates the summary of the comparative study's findings concerning referral system in the selected countries.

**B) Results derived from the study of direct treatment of Iran's social security:** Insurance system in Iran is based on social insurances and has many similarities with France in terms of organization (in fact, from the beginning Iran's insurance system is modeled after France's). Like France, in treatment section of Iran's social security organization there is no real referral system and the patients' reference to general or specialist doctors is done quite freely (on the patient's choice) (Table 2).

**Table 2-** Results derived from the study of direct treatment of Iran's social security

Title	2002	2003	2004	2005	2006
The number of inpatient referents	610113	654586	689663	699623	716557
The number of outpatient referents*	37432097	40520484	4194648	43787520	45191784

\*These referents included general doctors', specialists' and dentists' visit fee



**Diagram 1-** The finalized pattern of the patient's and the information's movement path in the proposed referral system (the insured, who is volunteered to enter the referral system, refers to one of clinics near to his residence place; the rest of those insured, who do not enter referral system, refer to indirect treatment section; the insured who have registered in the referral system are not allowed to refer to indirect treatment section. Otherwise, (in case of referring) they should pay the cost; the rest of those insured when referring to the direct treatment section (the organization's property centers) should pay the cost; in property centers, there is a defined family doctor for each insured family. The family doctor for each insured family launches a file for family health and registers the required information according to the determined forms in the file; the family doctor investigates the patient's medical complaints in all cases. In most cases, the family doctor embarks on recognition and treatment actions and in emergency cases, refers the patient to the sub-specialist physician. All the services in this section are free for the family members; in some cases when required, it is possible that the patient be referred to the indirect treatment section in which the patient pays no cost; in all cases of references, the doctor, treating the patient, will send back to the family doctor all feedback about the actions done and necessary issues to be recorded in (family) health's file; and in indirect treatment section, the patients have no limitation in referring to the doctors if they pay specified franchise.

**C) The proposed pattern:** By paving the way and doing required preliminary actions in the headquarters, some actions were done to implement the referral system in direct treatment section of the social security organization. Then, required procedures and principles were declared and enough explanatory sessions were held for provincial authorities. Then, according to determined schedule and staging, different provinces will join this scheme. By joining, all property medical centers in the province, including on-the-spot and hospitalizing (treatment) centers (with respect to the staging), will provide services only in the form of referral system. With the commencement of the scheme, the insured can voluntarily enter the direct treatment of referral system in which case, they cannot use indirect treatment medical services. Each family is free to choose an on-the-spot medical center (clinic or poly-clinic of an adjacent hospital). This choice is made among several possible proposed options (in case, the accessible on-the-spot centers are abound), based on the residing place and the capacity of accessible on-the-spot property centers. In the mentioned center, a family doctor is introduced to each family and a (family) health's file is launched. From now on, all medical actions belonging to this family are done through this center and are guided through this doctor. The rest of those insured by social security, who do not enter this scheme, can only use the indirect treatment section which will be like the current situation with the payment of franchise. With respect to the proposed options agreed on by the majority, the proposed model of Diagram 1 was confirmed.

## Discussion

More than 45 million was spent on on-the-spot visit in 2006 and this shows that investment on modifying the references' structures and organizing references in this section is a massive and valuable attempt which needs calculated planning. Also, the number of specialized visits constitutes around 40% of general visits which is much higher than worldwide inflations. In other words, it can be easily concluded that the lack of a referral system will lead to the wastage of specialist resources in this section.

The other important point is that the facilities of the direct treatment section are not evenly distributed in Iran. It is not even possible to say that their distribution is in harmony with the insured's distribution. This issue is of high importance particularly when it comes to planning to implement

the referral system. For example, Tehran had the most number of hospitalized people, amounting 105453 people and Qom province had the least, amounting 455 people. The difference between these two numbers which reaches to more than 231 times is an example of the differences in the organization's facilities in Iran's different provinces.

According to the findings, 71% of those hospitalized in the organization's property hospitals are insured by social security and the rest 29% were insured by other organizations or those were freely insured people. These statistics show that the direct treatment section of the organization plays a vital role as a massive provider of medical services in Iran, in addition to those insured by the organization itself.

In a research done by *Love et al.*, they concluded that the population and geographical factors have more important role in designing referral system than payment method which is not in harmony with this research's findings [14].

*Peter*, in his study called "the effect of referring or transferring patients on hospital's resources in a health service system based on per capita", embarks on comparing the treatment costs of referred patients with those of other patients and concludes that medical costs of the first group (referred patients) are higher than others and if the payment basis in these hospitals be the recognition, it is possible that the hospital suffers and or does not welcome appropriately the referred patients [15].

*Hassan Zadeh et al.* emphasized in their study that implementing and managing an effective referral system needs comprehensive cooperation between government and accomplishing extensive modifications [16].

*Ebn Ahmadi* proposed in his model of close referral method that patients have no right to refer to specialist physicians and medical centers without obtaining permission from the family doctor and if the referring principles are not observed by the patients (except in emergency cases), the system of providing health services will not pay for medical costs [10].

In *Al Yasin et al.* research, referral systems are divided into two general categories open and close. In close referral system, patient and doctor have no right to choose each other and reference to higher ranks of medical services is only possible through predetermined general doctor [17]. In open referral system, the patient chooses the family doctor for a specific period. Also, *Karimi* advises the creation of health file (preferably electronic) so as to the rural people's access to health services [9].

## Conclusion

With respect to the set of weaknesses and strengths and also, the existing threats and opportunities, the experience from other countries show that implementing referral system is, in overall, to the benefit of the insured and the organization. Although, in short-term it usually faces difficulties. Summarizing what was said, it can be concluded that the direct treatment section of social security is one of the biggest providers of medical services, not only to those insured by itself but also to other people living in Iran.

Two points should be mentioned here, first, it is necessary to remind that what went on in this research does not include all aspects of referral system and family doctor, since, its dimensions are so expansive and this study limits itself to the framework of the predefined specific goals.

The second point is that to implement this model, some preliminary measures are required whose neglect leads to the model's failure, including:

- 1) Enriching the insured people's culture about (or familiarizing them with) the real advantages of referral system
- 2) Enriching the medical and hospital staff's culture about the necessity of implementing this model
- 3) Approving the required rules and eliminating contradictory rules
- 4) Recruiting and training the required human workforce
- 5) Negotiation and satisfying beneficiary and interested groups
- 6) Attracting inter-sectional cooperation, particularly among experts, and authorities of Health Ministry
- 7) Defining and implementing the required training courses for the personnel at different levels
- 8) The implementation of the required organizational changes at the levels of headquarters and line
- 9) The establishment of a center to define the required policies, schemes, procedures and principles in technical and execution dimensions
- 10) The establishment of checklists, forms and criteria for assessing and monitoring the function and payments
- 11) The implementation of the scheme in probation in

one or two regions and its ensuing revision

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