# Reform in Insurance Payment in Iran

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**Abstract:** Today, the way of supplying treatment service expenditures, though is considered as a serious challenge for governments of most of the world countries, is one of the main problems of most low or average-income families. In this research, determining the extent of direct and out of pocket payments of diabetic patients for receiving treatment and comparison of treatment expenditures of diabetes in all kinds of insurance have been considered. This research design is causal-comparative. Information needed in this research is collected by researcher - made questionnaire, content validity of which is confirmed by professions. Data analysis has been done by the statistical model of one way analysis of variance, follow-up test of Dancan and t-test. Among people with three kinds of insurances of Treatment Services, Social Support, and other insurances regarding general expense, native & non- native patient expenditures, direct and indirect ones, emergency and normal patients expenditures, the ratio of out of pocket payment and direct expense, there is significant difference. Also, there has been seen significant difference ($p<0.01$،$F=19.37$) in out of pocket payment ratio from direct expenditures and general ones ($F=25.36$, $p<0.01$) in three kinds of insurances being studied, such that out of pocket payment who is under the insurance of treatment services 59.55%, social supply 50.34% and other insurances 32%. Though improvements in the country's health and treatment indices, the health system has been faced with serious challenge in the way of supplying treatment care service expenditures and the insurance system has low efficacy in protecting families against health expenditures. Therefore it seems that attempts to integrate insurances and maximize service insurance coverage and their promise limits could be proper method in decreasing the ratio of out of pocket payment and protecting families against confronting with excess health expenditures and poorness resulted from that.
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## 1. Introduction

Patient treatment and rights has always been of the first priority for Iranian physician in all times (Abbasnejad et al., 2013; Farhoudi et al., 2013; Golzari and Ghabili, 2013; Golzari et al., 2013; Golzari et al., 2012; Golzari et al. 2013f; Golzari et al. 2012b; Golzari et al., 2012; Khalili et al., 2013; Khodadoust et al., 2013; Yazdchi et al., 2013). The approaches all medical staff including physicians, nurses and even insurance companies differ in all countries (Ghabili et al., 2013; Soleimanpour et al., 2013; Yaghoubi et al., 2013). Metabolic and cardiac disorders impose a great burden on the society and health-care providers (Jabbari Moghaddam et al., 2013; Mahluji et al., 2013; Sokouti et al., 2010; Poortaghi et al., 2013; Taheri et al., 2010; Taheri et al., 2011). Surgical procedure been performed on patients also contribute to a portion of the budget spent via insurance companies (Agamohamdi et al., 2011; Golzari et al., 2013; Hosseinzadeh et al., 2012; Hosseinzadeh et al., 2013; Seyedhejazi et al., 2012; Seyedhejazi et al., 2013; Sokouti et al., 2011; Sokouti et al., 2011).

Respiratory diseases contribute to a major quota of the diseases leading to patients' hospitalization (Feizi et al., 2013; Hosseinzadeh et al., 2012; Mahmoodpoor et al., 2013; Peirovifar et al., 2013; Sokouti et al., 2013; Sokouti et al., 2012; Sokouti et al., 2012; Sokouti et al., 2013; Soleimanpour et al., 2011; Hashemzadeh et al., 2012; Ansarin et al., 2010). The importance of health care becomes eminent in disasters (Ghabili et al., 2013; Ghabili et al., 2012; Ghabili et al., 2013; Ghabili et al., 2012; Golzari and Ghabili, 2012; Golzari and Ghabili, 2013; Golzari et al., 2013; Golzari et al., 2013; Golzari and Ghabili, 2012; Khanli et al., 2013), shortcomings (Golzari et al. 2013) and emergency situations (Soleimanpour et al., 2012; Soleimanpour et al., 2012). Novel medical interventions require further attention from the side of health-care providers (Aslanabadi et al., 2013; Azarfarin et al., 2013; Golzari et al., 2013; Mortazavi et al., 2013; Naghipour et al., 2013; Javadzadeh et al., 2013; Khoei et al., 2011; Aslanabadi et al., 2010; Aslanabadi et al., 2011). Diagnostic approaches per se consume the main part of the finance supported by insurance companies (Ayromlou et al., 2013; Golzari et al., 2013; Bavil et al., 2011; Nemati et al., 2010; Farhoudi et al., 2011; Farhoudi et al., 2010; Totonchi et al., 2008; Golzari et al., 2013). Treatment health sector is considered as one of the main sectors in socio-economic activities of any country, such that

economically considerable financial resources allocate to this sector in order to support, maintain and improve the country people's health (Whitehead et al., 2001).

Health systems could make substantial differences in people's health by providing health, prevention and treatment services. As a result, it provides an opportunity for improvement of people's health especially for poor families to get rid of poverty net. Though in some societies, access to treatment services could confront some of families with catastrophic health care expenditures and make them involved in poverty net. Therefore, some of families ignore receiving their needed services in order to prevent negative effects resulted from supplying treatment service expenditures and have to suffer illness pain. Catastrophic health care expenditures occur when the household' payment expenditures for health care services include higher portion of household capacity to pay (Kawabata et al., 2002; Van Damme et al., 2004; Wagstaff and van Doorslaer, 2003; Whitehead et al., 2001).

**2. Material and Methods**

This research is an analytic, retrospective study of comparative one. The statistical population of this research is all diabetic patients who are hospitalized in health care educational center of Sina in Tabriz in second half of 2010. For sampling, census method has been used. After being selected, samples who were 94 individuals have been placed regarding the kind of insurance organization in three groups name treatment service insurers (33 people), social supply insurance insurers (31 people), and a group under the title of other insurances that include insurers of Imam Khomeini committee, military forces, banks and municipal (30 people). It is necessary to explain that treatment services insurance organization has itself 4 treatment insurance fund including (1) insurance fund of public staffs, (2) villagers insurance fund, (3) self-governed insurance fund, and (4) other classes insurance fund. Fund of public staffs covers government staffs and their families.

Villagers insurance fund covers people inhabiting in villages and their families self- governed insurance funds are those people who have become fund membership arbitrarily. Other class insurance fund covers university and Howzeh students.

Data has been analyzed after being collected by the statistical model of one-way analysis of variance and Duncan follow-up test and t-test.

**3. Results**

In the following tables, descriptive indices including mean, standard deviation and then results of comparing difference of three-fold insurances in the above mentioned expenditures mean using the statistical model of one-way analysis of variance, significant difference among three-fold insurance expenditure using Dancan follow-up test and significance difference among native and non- native patients expenditures, direct and indirect expenditures, emergency and normal patient expenders in several three-fold insurances using t-test.

Comparison of treatment expenditures for native diabetic patient in three kinds of insurances shows significant difference ($P<0.01$, $F= 72.45$), such that health care has the most expenditure and social supply has the least one. Treatment expenditure for non-native diabetic patient in social supply and health care insurances were similar to each other and had no significant difference. But this expenditure in the group of other insurances was significantly low ($P<0.01$, $F= 54.24$). Also, comparison of native and non- native patient expenditure for each insurance kind separately shows that in social supply insurance. ($P<0.01$, $t = 8.55$) and health care insurance ($P<0.01$, $t= 6.52$), non- native patients, expenditures was significantly more than native patients'. But in the group of other insurances, native and non-native patients, expenditures were similar and had no significant difference with each other.

Comparison of direct expenditure in diabetic patients in health care insurance and the group of other insurances were similar and had no significant difference with each other. But this expenditure in social supply insurance was significantly low ($P<0.01$, $F= 50.31$). Indirect expenditure of diabetic patient in three kinds of insurances show significant difference ($P<0.01$, $F= 88.4$). Such that health care has the most expenditure and the group of other insurances has the least one.

Also, comparison of direct and indirect expenditure for each kind of insurances separately shows that in social supply insurance ($P<0.01$, $t= 6.54$) and the group of other insurances ($P<0.01$, $t= 5.46$) direct expenditure is significantly more than indirect expenditure. But in health care insurance, direct and indirect expenditures are similar.

Comparison of diabetic patient being accepted emergently in three kinds of insurances shows significant difference ($P<0.01$, $F= 42.36$). Such that health care insurance has the most expenditure and social supply insurance has the test one. Diabetic patients expenditure being accepted normally in three kinds of insurances shows significant difference ($P<0.01$, $F= 52.78$), such that health care insurance has the most expenditure and social supply insurance has the least one.

Also, comparison of diabetic patient's expenditure being accepted emergently and normally in each kind of insurance separately shows that in social supply insurance, patient's expenditure being accepted, normally is significantly more than

emergent patient's expenditure ($p<0.01$, $t=6.47$). But in health care insurance and the group of other insurances, emergency and normal expenditures were similar, i.e. they have no significant difference with each other.

Comparison of total expenditure of diabetes treatment in three kinds of in assurances shows significant difference ($P<0.01$, $F= 64.32$), such that health care insurance has the most expenditure and social supply insurance and the group of other insurances are similar. Comparison of percent of out of pocket payment of total expenditure in three kinds of insurances shows significant difference ($P<0.01$, $F= 25.36$), such that social supply insurance and health care insurances were similar and the had the most percent of out of pocket payment and the group of other insurances was significantly the least percent of out of pocket payment.

Comparison of direct expenditure of diabetic patients in three kinds of insurances show significant difference ($P<0.01$, $F= 50.31$), such that health care insurance has the most expenditure and social supply has the teats one. Comparison of percent of out of pocket payment of direct expenditure in three kinds of insurances shows significant difference ($P<0.01$, $F= 19.37$), such that health care insurance has the most expenditure of out of pocket payment of direct expenditure and other insurances are significantly the least percent of direct expenditure.

**4. Discussion**

As consuming health services and the rate of direct payments for health services of OOP are of main factors of determining household's confronting with catastrophic health expenditures (Adhikari et al., 2009; Somkotra and Lagrada, 2008), so protecting people against illness expenditures has been determined as one of three main purposes of health systems in the annual report of WHO in 2000 (Adhikari et al., 2009; Somkotra and Lagrada, 2008).

One of finding of the research showed that non- native patient's expenditure is more than native patient's. The probable explanation of this finding is that non- native patients have to leave their home town to – receive their required health services and have to spend more indirect expenditures like in habiting expenditures and etc.

Another finding of the research showed that direct expenditures of patients under the coverage of health care insurance and other insurances is significantly higher than those under the coverage of social supply insurance. The probable explanation of this finding could be that as the class under the coverage of health care insurance and other insurances comprise low- income class of the society and these individuals postpone treating their illnesses because of low shopping power, and evades of requesting their required services and take action to treat their illness when their illnesses became advanced and inevitably they have to request more medical actions to return their health and necessarily increase treatment expenditure. This is while the class under the coverage of social supply insurance, regarding the structure of this kind if insurance receives services in hospitals under the coverage of this insured organization almost free leading to be under medical examinations repeatedly. As a result, social supply insurers take action for treatment in initial stages of illness and this leads to decreased direct expenditures. This explanation is also true about emergency and normal patient expenditures of health care insurers and other insurance insurers that Howe no significant difference, because their emergency and normal status does not differ with each other, for in both cases patient take action to treatment in final stage of illness. While social supply patients' expenditure being accepted normally or emergently show significant difference with each other.

The other finding of the research indicates that the most load of financial supply of services is on insurers that are being paid as direct payment of out of pocket while using services. As health care insurers pay 59.55% and social supply insurers pay around 50.34% of total expenditures of treatment by themselves. This finding is consistent with results of the study by the title of "measuring households' confrontation with health catastrophic expenditures" a longitudinal study in 17 the region of Tehran during 2003 to 2007 that revealed that the rate of out of pocket payment for health services in Iran is high and high out of pocket payment is considered as one of the serious and main challenges of health system in Iran and also it is consistent with a study that has been carried out based on health national accounts in Iran and it has been confirmed that more than 50% of health services expenditures during illness period is being paid directly out of household's pocket. It also is consistent with carried out international studies in which it has been confirmed that financial supply of health services in developing countries is dominantly being pied as out of pocket form (van Doorslaer et al., 2006).

The other finding of the research showed that the version of direct out of pocket payment differs from treatment direct expenditures in several kinds of insurances being studied. The probable explanation of it could be that promise roofs and depth of insurance coverage of services in the studied insurances differ with each other. This is consistent with results of a study in which it has been clear that support packages limitedness in insured organization leads to increased direct and out of pocket payments that at last it

increases the probability of households' confrontation with health catastrophic expenditures (Ekman, 2007).

Table 1. Comparing diabetes treatment examples in several insurances and comparing expenditures of these two kinds of patients in each kind of insurances separately (*Significant in probability level of 0.05; **Significant in probability level of 0.01; T-test to compare native and non- native patients in each kind of insurance separately)

| Factors | Native patients' expenditures (Toman) | | Non-native patients' expenditures (Toman) | | T test* |
|---|---|---|---|---|---|
| | SD ± mean | F | SD ± mean | F | |
| Social supply insurance | 250000c ± 12000 | 72.45** | 490000a ± 26000 | 54.24** | 8.55** |
| Health care insurance | 370000a ± 24000 | | 520000a ± 31000 | | 6.52** |
| Other insurances | 300000b ± 20000 | | 320000b ± 23000 | | 2.34 |

Table 2. Comparison of direct and indirect expenditures of diabetes treatment in several three- fold insurances and comparison of these two expenditures in each kind of insurance separately (*Significant in probability level of 0.05; **Significant in probability level of 0.01; T-test to compare direct and indirect expenditures for each kind of insurance separately)

| Factors | Direct expenditures (Toman) | | Indirect expenditures (Toman) | | T test* |
|---|---|---|---|---|---|
| | SD ± mean | F | SD ± mean | F | |
| Social supply insurance | 162000b ± 9000 | 50.31** | 128000b ± 11000 | 88.4** | 6.54** |
| Health care insurance | 229000a ± 12000 | | 211000a ± 15000 | | 1.32 |
| Other insurances | 205000a ± 14000 | | 95000c ± 1500 | | 5.46** |

Table 3. Comparison of emergency and normal expenditures of diabetes treatment in three- fold insurances and comparison of these two expenditures for each kind if insurance separately (*Significant in probability level of 0.05; **Significant in probability level of 0.01; T-test to compare emergency and normal patient's expenditure for each kind of insurance separately)

| Factors | Emergency expenditures (Toman) | | Normal expenditures (Toman) | | T test* |
|---|---|---|---|---|---|
| | SD ± mean | F | SD ± mean | F | |
| Social supply insurance | 150000 c ± 9500 | 42.36** | 270000 c ± 12000 | 52.78** | 6.47** |
| Health care insurance | 410000 a ± 15000 | | 450000 a ± 17000 | | 2.69 |
| Other insurances | 270000 b ± 16000 | | 310000 b ± 14000 | | 2.31 |

Table 4. Comparison of total expenditure of diabetic treatment and percent of out of pocket payment of total expenditure in several kinds of insurances (*Significant in probability level of 0.05; **Significant in probability level of 0.01; *F analysis of variance to compare percent of out of pocket payment of total expenditure in three kinds of insurances)

| Factors | Total expenditure of diabetic treatment (Toman) | | Out of pocket (Toman) | | Percent of out of pocket payment of total expenditure |
|---|---|---|---|---|---|
| | SD ± mean | F | SD ± mean | *F | |
| Social supply insurance | 290000 b ± 15000 | 64.32** | 146000 a ± 8500 | 25.36** | 50.34 |
| Health care insurance | 440000 a ± 23000 | | 262000 a ± 26000 | | 59.55 |
| Other insurances | 300000 b ± 17000 | | 96000 b ± 6000 | | 32 |

Table 5. Comparison of direct expenditure and percent of out of pocket payment of direct expenditure in diabetes treatment in several kinds of insurances (*Significant in probability level of 0.05; **Significant in probability level of 0.01; *F analysis of variance to compare percent of out of pocket payment in direct expenditure in three kinds of insurances)

| Factors | Direct expenditures (Toman) | | Out of pocket expenditures (Toman) | | Percent of out of pocket payment of total expenditure |
|---|---|---|---|---|---|
| | SD ± mean | F | SD ± mean | *F | |
| Social supply insurance | 162000 b ± 9000 | 50.31** | 23000 b ± 1500 | 19.37** | 14.20 |
| Health care insurance | 229000 a ± 12000 | | 50000 a ± 3300 | | 21.83 |
| Other insurances | 205000 a ± 14000 | | 2000 c ± 150 | | 0.98 |

Considering the findings of the present research it has been cleared that health system in Iran confronts with serious challenge in the way of supplying service expenditures of health care and because of multiplicity of insured organizations, insurance system has low efficiency in protecting households against health expenditures. Therefore it seems that try to integrate insurances and increase depth of insurance coverage and promise roofs could be a pooper method in decreasing portion of out of pocket payment and protecting households against health catastrophic expenditures and poverty resulted from it.

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