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Insurance Deductions in Patients' Bills: A Case Study on Tamin Ejtemaei Insurance in Iran

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ABSTRACT

Background: Insurance deductions are not only caused to failure to achieve the paid costs from the provided services but also are caused to the inefficiency of hospitals. So, this research was conducted to determine the amounts and reasons of insurance deductions in patients' bills of Tamin Ejtemaei.

Methods: This descriptive-practical and retrospective study was conducted in the second season of 2012. The statistical population included records of hospitalized patients (discharged) covered by Tamin Ejtemaei insurance that was conducted as census. The data were collected by using a check list which its validity had been confirmed by experts. The collected information was analyzed through the Excell software and descriptive statistics. Information related to the proposed solution was collected by using group discussion.

Results: The amount of applied deductions by Tamin Ejtemaei insurance organization was 47408.62 $ (1$ = 12050 Rials). As bills of hospitalized patients' records. The mostly applied deductions were respectively related to equipment of surgery-room, the type of bed during hospital stay, and surgeon fees, however, the main part of these deductions was due to the premium (incompatibility between the price on request and the price of equipment applied for patient) as well as additional request (not consideration of the authorized tariff) by hospital.

Conclusion: The hospital efficiency and care therapy quality can be improved by more accurate and better perception of the amount and reasons of insurance deductions and correct management of them.

Keywords: Insurance, Insurance Deductions, Hospitalization Bill, Hospital

Citation

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Introduction

One of the issues of concern in developed countries is health resources which always a part of governments' costs has been allocated to it. Nowadays, the health sector is faced with severe difficulties with respect to resource constraints in many countries such as Iran. Therefore, it is necessary to place the optimal use of facilities and improvement of productivity on agenda as an inseparable component of healthcare system management (1). Because hospital is one of the most important provider units of care services in national level, improvement of hospitals' efficiency leads these centers to provide services of higher quality by using available resources (2). One of the most important issues which has always attracted hospital administrators' accuracy and effort is dominance and control on hospital's financial situation and provision of the required resources to manage hospital (3,4). One of the revenue resources of hospitals is provision and sale of services to those insured under the coverage of insurer organizations according to universal insurance law (5). According to this issue, one of the important factors about financial issues of hospitals is a flaw that roots from lack of organization in financial affairs and imposes costs on these centers. One of these additional costs is the one imposed as a result of inattention to regulations notified by insurer organizations on hospitals under the title of "deductions".

Given that the insurer organizations are committed to pay a part of care costs of insured people in hospitals, a lot of offered services remain unaccounted and without pay due to lack of correct principles in data collection, costs calculation, and failure to submit patients' bills timely (6). In a research conducted by Askari et al. (7), in educational hospitals it was reported that from the sum of hospitalized records' bills, 9.8% had incurred deductions during the research. The highest amount of deductions applied from the requested amounts was 7.12%. In another study, Safdari et al. (8), indicated that the most amount of applying deductions in hospitalization documents are respectively related to test (38.74%), equipment (13.96%), medicine (11.90%), residence (9.41%), commission (8.76%), and anesthesia (4.56%). While in ambulatory documents this amount was related to visit, test, as well as medicine and much of it was reported to be due to documentation deficiencies.

In the research of Tavakkoli et al. (9), under the topic of "comparative evaluation of deductions of insurance organizations of care services of Tamin Ejtemaei in bills of Shafa educational hospital in Kerman", the mostly mentioned reasons of applied deductions were related to "more than the tariff", "lacks the necessary documents", "add in anesthesia", "add in K operation", and "add in the cost of the operating room".

Nakojima (10) in England also mentioned that the main reason of insurance deductions was due to the fact that staffs did not register actions they carried out, or they registered actions that insurer organizations did not pay money for them. Also, because most of physicians didn't know the cost of prescribed services, the insurer organizations did not pay for them. Non-registration of services because of being busy is one of the cases that occur in most of hospitals and this issue imposes much cost to hospital. So, paying attention to this subject would be effective in prevention of wasting financial resources.

According to the importance of insurance deductions, this research was designed and implemented targeting at determination of the amount and reasons of insurance deductions in the bills of hospitalized patients' records during the second quarter of 2012. This study also aimed to suggest suitable strategies to reduce insurance deductions and finally increase hospitals' efficiency.

Materials and Methods

This descriptive - practical study was conducted through the retrospective method in a private hospital in Tabriz (city). The research population consisted of all hospitalized patients' records under the coverage of Tamin Ejtemaei insurance during the second quarter of 2012. The research sample was selected in the form of census. So that all bills of hospitalization records sent to Tamin Ejtemaei

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insurance by the hospital were studied in the second quarter of 2012.

The number of evaluated records was 1648 totally. A check list was designed by researchers to collect the required information of the research, which was then applied as the data collection instrument after its content validity was checked by 10 managerial experts and professionals in hospital insurance and financial matters (CVR = 0.75). The designed check list included the record's number, the hospitalization ward, deduction items (type of the provided services to patients), amount and reason of deduction (after evaluating the bill by insurance expert, reason and amount of deduction is registered with the related items). After data collection, information was analyzed by Excell software.

After analysis of information and determination of results a focus group discussion was conducted in which results of the study were presented by researchers and appropriate strategies to reduce deductions were collected and presented. This session was carried out by presence of the hospital's authorities (hospital manager, hospital matron, chief accountant, financial officer, chief of revenue and discharge unit, secretaries of different wards, insurance experts, and researchers of study). The methodology was so that researchers initially identified the beneficiaries in insurance deductions in coordination with the hospital management, then they invited all participants to a meetings with specification of time and place. The meeting began by giving a presentation and introduction about aim of meeting and laws of focus group discussion. Later, with the guide of researcher, attendees presented their opinions in turn about the roots and inter-organizational reasons of insurance deductions as well as corrective solutions. Researchers also registered and summed up the participants' comments and suggestions and reported them for final confirmation in the meeting.

Further, in the current study all ethical issues were observed based on the Helsinki Declaration.

Results

Findings of the research showed that the amount of insurance deductions in hospitalized bills of the studied hospital through the second quarter of 2012 was 17.63% of the total requested amount from the insurance organization (Table 1).

The results of the study showed that the highest rates of deductions were respectively related to premiums (31.21%) and consumed equipment (29.35%) of the total amount of deductions. The results also indicated a 19.09% of hoteling deductions (Table 2).

Results of the research showed that the highest amount of deductions (27.68% of total amount of deductions) was related to consume accessories of surgery room due to the additional price (93%) and incompatibility of date in the surgery room equipment paper (6%). The next rank was related to the type of bed in hospitalized days (19.09% of total amount of deductions) and for the reasons of additional price (85%), premium (9%) and deductions of Scientific Council (6%).

The third rank was related to surgeon's commission (16.03% of total amount of deductions) because of additional request (75%) and deductions of Scientific Council (24%). The least amount of deductions based on costing items of hospitalization bills was related to Serum therapy with 0.002% of the total deductions (Table 3).

Moreover, evaluation of the hospitalization wards in terms of deduction amounts showed that the highest rates occurred respectively in male surgery ward 1 (19.68% of total amount of deductions), heart surgery ward (17.62%), female surgery ward (14.41%), NICU (10.06%), obstetrics and gynecology (10.01%). Also, the mean of insurance deductions of hospitalized patients' bills in ICU.OH, heart surgery, ICU, POST CCU, ICU.G and CCU were higher than other parts. Amounts of deductions and their reasons were determined to specify which wards had allocated most of insurance deductions to themselves (Table 4).

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Table 1. The rate and percentage of hospital insurance deductions in the second quarter of 2012

Month	Amount requested ($)	Deductions' amount ($)	Insurance deductions (%)
March-Apri	64532.39	13775.74	21.34
April-May	108000.96	19672.73	18.21
May-June	95902.16	13960.15	14.55
Total amount of three months	268435.51	47408.62	17.63

Table 2. Insurance deductions in terms of Bills' items

Kind of service offered	Deductions ($)	Deductions (%)	Deductions' average ($)	Deductions (Standard Deviation)
Commission	14801.04	31.21	8.98	24.10
Consumed Equipments	13917.80	29.35	7.99	36.01
Hospitalization bed per night	9053.17	19.09	5.49	39.74
Paraclinic	3858.73	8.13	2.34	9.50
Medicine	27.3504	7.39	2.11	8.36
Other services	2281.26	4.81	1.85	24.33

Table 3. Determination of the major causes of insurance deductions in terms of bills' costing items

Bills' costing items	Deductions (%)	Main reason of deduction
Consumed Accessories in Surgery room	27.68	Additional cost (93)*
hospitalization bed	19.09	Additional cost (85)
surgeon's commission	16.03	Additional request (75)
surgery room	7.41	Additional request (75)
surgery room medicine	6.88	Additional cost (93)
laboratory	4.66	Additional request (39)
MRI	2.39	Repeated (98)
Consultant Physician visit	2.38	Additional request (38)
Assistant surgeon commission	1.58	Additional request (38)
Angiography consumed accessories	1.57	Additional cost (94)

*93% of the total bills incurred deduction in consumed accessories of surgery rooms due to additional prices

Table 4. Insurance deductions in hospitalization wards

Ward's name	Number of bills	Deductions ($)	Deductions' average ($)	Standard Deviation	Deductions (%)
Male surgery ward1	373	9331.54	25.02	47.33	19.68
Heart surgery	22	8354.87	379.77	305.12	17.62
Female surgery	277	6834.72	24.67	41.54	14.41
NICU	313	4770.99	15.24	42.57	10.06
Obstetrics and Gynecology	390	4746.65	12.17	13.09	10.01
CCU	38	2572.14	67.69	208.25	4.78
ICU.G	29	2564.20	88.42	198.93	4.77
POST CCU	38	2477.14	65.19	95.33	4.61
ICU	18	2452.11	136.23	173.28	4.56
Male surgery ward 2	85	2080.06	24.47	38.02	3.87
Maternity	62	729.20	11.76	14.53	1.35
ICU.OH	3	502.66	167.55	139.33	0.93

Discussion

Findings of the current study showed that amounts of insurance deductions in hospitalized patients' bills under the coverage of Tamin Ejtemeaei was 47408.62 $ in the studied hospital, that is 17.63% of total requested amounts by the hospital.

According to conducted evaluations by Dehnavieh et al. (11), the total amount of applied insurance in Firouzgar hospital was 9.70%. In another research conducted by Tabatabaei et al. (12), in Shahid Rajaei hospital of Qazvin, the insurance deductions of Tamin Ejtemaei

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organization were 5.2%. Results of the mentioned researches are inconsistent with those of the present research. The reason seems to be for difference in the type of hospitals' ownership.

Results of the research showed that the most of insurance deductions were respectively related to surgery commission and consumed accessories with 31.21% and 29.35% of deductions' total amounts. Dehnavieh et al. (11), in his research has reported that the costs of hoteling and electrocardiography with respectively 18.09% and 0.1% have the most and the least deductions. Results of the present research showed that hoteling deductions are equal to 19.09% which is consistent with the above mentioned two researches. Askari et al. (7), in a study on educational hospitals of Medical Sciences University of Yazdin, indicated that the most amount of insurance deductions was related to surgery commission that is similar to results of the present research.

The major reasons of insurance deductions are due to premium (incompatibility of the requested price with the price of consumed accessories for patient) and additional requests (not consideration of authorized tariff) by hospital. In a research conducted by Karimi et al. (13), the additional request was mentioned as the main reason of insurance deductions which is consistent with the results of studies carried out in this field. But Fatehi Paykani (14) announced documentation deficiencies of Sina and Firouz Abadi hospitals as the main reason of insurance deductions. Results of this research are not consistent with those of the present study.

Further, evaluation of hospitalization wards in terms of deductions showed that the highest amount of insurance deductions occurred in ward of male surgery 1 (19.68%). However, unlike the obtained results, the statistical tests showed that the mean of insurance deductions in hospitalized patients' bills are higher in ICU.OH, heart surgery, ICU, and CCU wards than other parts.

Orthopedics ward (33%) and general surgery ward (17%) had the highest deductions among other wards based on the research results of Khorrami et al. (15), which is not consistent with the outcomes of present study. The deviant results of this research may due to difference in the type of available wards in two hospitals under investigation (16,17).

Research authors hope that by applying the results achieved from meetings of group discussions, insurance deductions' factors and reasons be removed greatly and more revenue resources be provided for the evaluated hospital.

Despite the strong points of the present research, one of its most important limitations was lack of simple accessibility to the archived records because records had been archived in another place out of insurance organization. However, this problem was solved by collaboration of insurance organization authorities.

Conclusion

In this research the main and general reasons of deductions were premium and additional request which are not considered as waste of resources. To solve the problems, reasons of deductions should be revised again after collection of information. Deductions are clarified while classified as waste of resources and unrealistic revenue, thus many disagreements about incorrect relations with insurer organizations can be prevented. Some deductions also, had direct relation with organizational mistakes such as: incompatibility of date, without date, without supporting documents, without expert's report, etc. rooted from inattention and mistakes of care center staffs. The care center should identify the staff in charge of these deductions by following and clarification of the process of prescription writing. The center is also required to plan the solution for removing these deductions which are usually related with organizational mistakes.

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Conflict of interests

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This research does not have any conflict of interest.

Authors' contributions

Janati A, Khanlari S and Asadi SA designed research; Khanlari S and Gholamzadeh Nikjoo R conducted research; Janati A, Khanlari S, Gholamzadeh Nikjoo R and Asadi SA analyzed data; and Khanlari S and Asadi SA wrote the paper. Asadi SA had primary responsibility for final content. All authors read and approved the final manuscript.

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