

Effect of per case payment on performance indicators of a military hospital's wards

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Abstract

Aims: One of the most important changes in the method of payment to the employees of health institutions is to pay for performance. Pay for performance improves employees' organizational performance through promoting financial incentives. The aim of this study was assessing the impact of per case payment on performance indicators and satisfaction in a selected military hospital.

Methods: This observational cross-sectional study was conducted during 2003-2008 in a military hospital of Tehran that had participated in per case payment plan. Subjects were selected by census sampling method. Data was collected by a researcher-made questionnaire using 5-scale Likert system and checklists. Data was analyzed by SPSS 16 software using independent T-test, ANOVA and Kruskal-Wallis test.

Results: The average of bed occupancy rate increased after implementation of per case payment method in all wards. The evaluation of employees' satisfaction showed that 21.3% had high satisfaction, 6.7% were satisfied, 31.5% had moderate satisfaction, 24.7% had low satisfaction and 15.7% were not satisfied at all. As a whole, the employees' satisfaction rate with this plan was "good" with the average of 3.06 ± 1.34 .

Conclusion: Wards' performance has improved in almost all the studied wards and this improvement has occurred through increasing of bed occupancy rate in some wards and reduction of patients' length of stay and increasing of bed turn in some other wards. The level of general satisfaction with the plan is evaluated as "good".

Keywords: Pay for Performance, Performance Indicators, Out-Sourcing, In-Sourcing, Hospital

Introduction

One of the fundamental issues in health policy-making is separating health policy-making from service providing; in the other words, separation of customer from the service provider among which functional communication among people is one of the most important issues [1, 2, 3]. Functional communication is proposed in broad terms like contract, management of contract and pay for performance.

Pay for performance is known as a functional change in management and terms of payments [4]. One of the most important changes in the method of payment to the employees of health institutions is transition from paying salary to pay for performance [5]. Pay for performance causes employees' better performance by providing improved financial incentives. The method of pay for performance has been implemented in many health-care payment programs since 2005 [6]. Results of a systematic review of the effects, methods and content of pay for performance method health-care system has shown that pay for performance programs in health-care organizations improve the service

quality and minimum performance standards [6]. In addition, the effect of pay for performance programs turns back to the approach and the manner of its application. Organizations should take some points in to account for implementing performance-based paying programs:

- 1- Defining the aim of pay for performance program.
- 2- Determining specific indicators and results for measurement.
- 3- Direct involvement of beneficiaries in composing the program
- 4- Implementing payment program comprehensively in the organization and paying enough attention to the quality improvement.

In recent years, several strategies are employed for service quality improvement with different results in health-care centers [4]. Some of these payment methods have led to the increased cost in systems [8]. The tendency to use pay for performance methods in hospitals has increased day by day so that implementation of pay for performance methods in health-care centers has been arrived to 37 programs in 2003 and 75 programs in 2004 and this amount

increased two times in 2005 [9]. The aim of this research is to study the effect of implementing per case system on performance indicators in one of Tehran's hospitals.

Methods

This cross-sectional observational study has been conducted in a 5-year period from 2003 to 2008. The study population contained all wards of one of Tehran's hospitals included in per case program that entered the study by census sampling method. The wards included pediatric, neurosurgery and ophthalmology (men and women), the obstetrics and gynecology ward and physical medicine (men and women). The data on the effect of per case payment on the performance indicators of the studied wards in mentioned time periods were gathered from the hospital's statistics center via checklist and a researcher-made questionnaire was used to measure the status of employees' satisfaction. Measured variables in the questionnaire were satisfaction with the financial impact, the application method and the improvement of services and incentives. The

questionnaire contained 13 5-option questions in Likert scale (very high, high, moderate, low, and very low). The reliability and validity of the questionnaire were determined by content validity method and its stability was determined by test-retest method. After distributing the questionnaire among 10 hospital employees in time intervals of 10 days and conducting the test-retest method, the reliability of answers were calculated and the retest coefficient of 79% confirmed the stability of the questionnaire ($r=79\%$).

The descriptive analysis of frequency, percentage of frequency, mean, and standard deviation was done and the mean was calculated based on the 5 options. The criteria of measurement were determined as: low satisfaction (the average score up to 2), moderate satisfaction (the average score between 2 and 3) and good satisfaction (the average score more than 3). Procedure analysis was used for analyzing the indicators and the impact of per case payment on the status of indicator by SPSS 16 software s. Data were examined for normality, using Kruskal-Wallis test. The results of this test confirmed the normality of the studied data and independent T-test were used for data analysis.

Table 1- The status of average hospital indicators before and after implementing per case payment

Ward	Hospital indicators	Average of indicators before the plan	Average of indicators after the plan
Pediatric	Length of stay (day)	3.25	3.17
	Percentage of occupied beds	72.99	79.13
	Bed turnover (number)	8.37	6.63
Men's Neurosurgery And ophthalmology	Length of stay (day)	3.46	2.30
	Percentage of occupied beds	63.56	72.20
	Bed turnover (number)	8.42	9.53
Women's Neurosurgery And ophthalmology	Length of stay (day)	2.26	2.17
	Percentage of occupied beds	56.89	68.89
	Bed turnover (number)	8.05	9.22
Obstetrics and Gynecology	Length of stay (day)	2.70	2.50
	Percentage of occupied beds	61.67	68.47
	Bed turnover (number)	7.26	8.80
Women's physical medicine	Length of stay (day)	8.38	7.25
	Percentage of occupied beds	75.55	87.79
	Bed turnover (number)	2.96	3.64
Men's physical medicine	Length of stay (day)	8.17	8.00
	Percentage of occupied beds	81.28	89.27
	Bed turnover (number)	2.97	3.60

Results

In studying the hospital performance indicators, the average percentage of occupied beds in all wards increased after per case performance. In the pediatric ward, the length of stay decreased after per case performance and bed turnover increased. In women's ophthalmology and neurosurgery wards and the

obstetrics and gynecology ward, the length of stay decreased slightly and bed turnover increased after per case performance. In women's physical Medicine ward, the length of stay decreased and bed turnover increased. In men's physical medicine ward, the length of stay decreased slightly while bed turnover increased (Table 1).

Measurement of employees' satisfaction with this

payment method was nearly high in 21.3% of cases, high in 6.7% of cases, low in 31.5% of cases and ultimately very low in 15.7% of cases. Totally, the employees' satisfaction with this method was "good" with the average of 3.06 ± 1.34 . The employees' satisfaction with the financial impacts of the project was "moderate" with the average of 2.95 ± 1.26 . The employees' satisfaction with the administrative authorities' attitude towards the project was "moderate" with the average of 2.97 ± 1.73 . Regarding the impact of this project on the staff's income, the satisfaction was "good" with the average of 3.36 ± 2.5 . Regarding the impact of the project on improvement of the staff's relationship, the satisfaction level was "good" with the average of 3.42 ± 0.4 . Regarding the impact of the project on the relationship improvement for the head of the ward, the employees' satisfaction was measured "good" with the average of 3.11 ± 1.01 . Regarding the impact of the project on improvement of the employees' relations in different wards, employees' satisfaction was moderate with average of 2.97 ± 2.34 .

Regarding the impact of this kind of payment on decreasing costs, employees' satisfaction was "moderate" with the average of 2.7 ± 1.13 . Patients' satisfaction after conducting this project was measured "good" with the average of 3.12 ± 2.31 . Regarding the impact of this project on making payments more equitable, satisfaction was "moderate" with the average of 2.75 ± 1.26 . Regarding the impact of this project on creating appropriate job environment, employees' satisfaction was "moderate" with the average of 2.65 ± 1.15 and ultimately, general satisfaction with the project was "good" with the average of 3.01 ± 1.1 . There was no significant relation between satisfaction rates in different gender groups with the confidence coefficient of 95%.

Discussion

Results from the studied wards showed that the performance of nearly all wards has become better compared to the time before plan's performance. But the important point is that the performance improvement of wards has been obtained through different ways. In some wards, this has been done by increasing the percentage of occupied beds and in some other wards by reducing patients' length of stay and increasing the bed turnover.

Several studies by the World Health Organization show that in low-income Asian countries, pay for performance has better results compared to traditional methods [4, 5, 10, 11]. The results of studies show that

pay for performance improves the performance by providing financial incentives. Nevertheless, literature of pay for performance is in its early steps and still there are not strong evidences and reasons for applying this method as a choice in health-care systems [12, 13, 14]. Other studies showed that conducting pay for performance project in hospitals has greater benefits and satisfaction for nurses but in return lower benefit for the clinical staff and ultimately, implementation of this program improved performance and financial balance of the health-care centers [15].

Based on the present findings, authors propose comparing pay for performance in hospitals (as a kind of in-sourcing of services) with out-sourcing services and determining its efficiency and effectiveness. A comprehensive performance management system should also be performed in hospitals in order to have better and more specific results. Despite the relative satisfaction of employees with this kind of payment, deeper investigation is suggested in this field with the aim of identifying the strengths and weaknesses of this approach.

In addition, findings show that implementation of this system has more influence on the quality of services. For controlling the service quality in this kind of payment, application of qualitative indices like patients' satisfaction and etc. is suggested. It is also better to provide clear agendas in this regard and declare them to and to the wards.

Conclusion

The performance of nearly all studied wards has become better compared to the time before plan's performance. This has happened due to the increase in percentage of occupied beds and in some other wards by reducing patients' length of stay and increasing bed turnover. The level of general satisfaction with the plan is evaluated as "good".

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