



Challenges of Implementing Pay-for-Performance Plan in the Views of Nurses Working in Hospitals Affiliated to Mashhad University of Medical Sciences: A Qualitative Study

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Abstract

Background: Pay-for-performance (PFP) plan is regarded as one of the approaches to increase the efficiency of healthcare organizations. In this respect, indifference to the challenges of implementing the given plan may result in its failure and irreparable damage to health systems.

Objectives: The present study aimed at identifying the challenges of implementing the PFP plan in the views of nurses working in hospitals of Mashhad University of Medical Sciences, Iran.

Methods: This study was done in the form of qualitative research using a content analysis method conducted in a cross-sectional manner in early 2016. To this end, sampling was of a purposive type and it continued until the data saturation was fulfilled. The participants consisted of 12 men and 17 women with at least 10 years of service, who were selected out of nurses or head nurses working in public hospitals in the city of Mashhad, Iran, as well as nursing experts of the headquarter office of the vice-chancellor for treatment affairs at Mashhad University of Medical Sciences. Data collection was carried out through semi-structured interviews. The content analysis method was employed for data analysis with regard to accuracy, precision, reliability, and consolidation of the data (via triangulation).

Results: The results of the study led to the categorization of the data into four main themes and 25 subthemes. The four main themes included structural challenges (10 subthemes), operational challenges (five subthemes), motivational challenges (six subthemes), and biases in decision-making (four subthemes). The theme of structural challenges, among the others, was mentioned as one of the significant factors affecting the implementation of the PFP plan addressed by all study participants.

Conclusions: It was concluded that the PFP plan is encountering many challenges in practice; thus, efforts to cope with them could be a big step toward meeting satisfaction in employees and patients. According to the study results, managers are recommended to consider the necessary measures prior to implementing this plan to avoid such challenges as much as possible.

Keywords: Pay-for-Performance Plan, Hospital, Nurse

1. Background

Human resources have been always considered as one of the most basic assets of the organization by policy-makers, planners, and managers (1). Therefore, motivating them to increase job satisfaction and consequently, improve quality of services, has become one of the main goals of organizations to maintain survival in the competitive business world (2). In this regard, one of the techniques to motivate employees is observing pay equity (3). In fact, an

unequal pay system can make job dissatisfaction, job quitting, and low-quality services (4). In most countries, there is an accurate and disciplined system for paying salaries and wages based on certain factors such as educational qualifications, work experience, working in deprived areas, and so on (5). However, the main forms of inequity happen in bonuses paid. Fairness in this field requires an accurate and realistic system that includes all the factors considering employees eligible for receiving such benefits (6).

Great efforts have been done to develop a logical and appropriate plan to give bonuses to employees with equity, such as the pay for performance (PFP) plan. The principles of the PFP plan comprise computation of employee performance in organizational goal achievement and pay accordingly (7, 8).

The PFP plan is a pay model that endeavors to reward measurable performance dimensions and encourages healthcare service providers to fulfill predetermined goals through financial incentives (9, 10). This model was developed to improve quality and efficiency and reduce additional costs, in which payers and service providers can link economic incentives and quality of services (11).

The PFP plan has been widely welcomed in many countries. Different studies have evaluated the effectiveness and efficiency of this model in health systems, leading to different results of its positive and negative effects (12). In Turkey, the implementation of the PFP plan led to increased efficiency in physicians and the reduced number of patients per physician. In general, the implementation of this plan in Turkey was satisfactory and resulted in the improvement of healthcare services (13). In contrast, the Canadian governmental healthcare organizations failed to implement the PFP plan due to the lack of an accurate evaluation system (14). Moreover, the findings of a study in Congo showed that the implementation of the PFP plan in the health sector could have even negative impacts on the quality of services if the employees' abilities and capacities were overlooked (15). Similarly, the pilot implementation of the PFP plan in Nigerian hospitals indicated that the plan decreased employees' motivations and consequently, reduced the quality of services (16).

The results of implementing the PFP plan in Tehran Shahid Hasheminejad Hospital also showed that the employees were satisfied with the implementation of the plan at a level of higher than average and this plan to some extent led to satisfaction among employees (17).

The pilot implementation of PFP plans in Iran initiated in October 2014. Before this date, nurses and all the employees were receiving two types of permanent (salary) and non-permanent pays, which the latter was in the form of overtime and merit pays. Following the PFP regulations for non-physician staff by the Ministry of Health (MOH), non-permanent pays were calculated based on these guidelines with the criteria and ratings specified in these regulations to replace overtime and merit pays (18). Typically, new plans face challenges and problems at the onset of their implementation, which are often neglected by planners.

2. Objectives

For this reason, the present study aimed to explore the challenges of the PFP plan in the views of nurses working in hospitals affiliated to Mashhad University of Medical Sciences, Iran.

3. Methods

This qualitative research using a content analysis method aimed to explore the challenges of the PFP plan in the views of nurses working in hospitals of Mashhad University of Medical Sciences (MUMS), Iran, in early 2016. To this end, first, the participants were selected via purposeful sampling. The analysis of the data from each interview was used as a guide for the next interview, and data collection continued until data saturation when no new concepts were collected.

Finally, after interviewing 29 employees including nurses and head nurses working in hospitals affiliated to MUMS or nursing experts working in the office of the vice-chancellor for treatment affairs at Mashhad University of Medical Sciences, the researchers arrived at data saturation.

The study settings were the headquarter office of the vice-chancellor for treatment affairs at Mashhad University of Medical Sciences, as well as its affiliated teaching hospitals. The interviews were held in resting rooms for nurses, nursing service offices, or experts' rooms. Before the interviews, the purpose and nature of the study were explained and shared with the individuals. After the interviewees were ensured about their data confidentiality and their informed consent was obtained for recording conversations during the interviews, the questions were raised.

The method of data collection in this study was in the form of focus group and in-depth/semi-structured interviews. To this end, the interviews were conducted in the form of groups. In cases that the participants could not attend the groups (due to high workload), individual interviews were done. First, five group interviews were conducted and then, eight individuals were interviewed. The mean duration of individual interviews was 55 minutes while the group interviews lasted for 70 minutes on average. In the last four interviews, the researchers concluded that new data were not achieved based on the content analysis and they reached data saturation.

In order to increase the accuracy of data collection, the interviews were recorded by one researcher. The recorded interviews were transcribed word-by-word; then, the main categories and sub-categories were extracted by two researchers using the content analysis method. During analysis, 390 initial codes were extracted from the interviews.

The initial codes were categorized based on similarities and proportionalities in the main categories. The categories were labeled based on their concept and nature in abstract forms and finally, sub-categories were derived for each main category. In cases of disagreements between researchers in terms of classification of the codes, a third researcher's opinions were included. To confirm the peer check, the data obtained from qualitative content analysis were submitted to three faculty members (one member of the Department of Health Services Management and two members of the Department of Health Information Technology) who were qualified in the field of qualitative research (with at least three indexed articles using content analysis method in their resumes).

4. Results

In this study, 29 nursing staff participated in the interviews whose demographic characteristics including gender, position, years of experience, and levels of education are illustrated in [Table 1](#).

Table 1. Demographic Characteristics of Study Participants

Variable	No. (%)
Gender	
Female	17 (58.6)
Male	12 (41.4)
Position	
Staff nurse	18 (62.1)
Head nurse	7 (24.2)
Experts	4 (13.7)
Years of experience	
10 - 15 years	12 (41.4)
15 - 20 years	10 (34.4)
20 - 25 years	7 (24.2)
Levels of education	
Bachelor's degree	24 (82.7)
Master's degree	5 (17.2)

After summarizing and formatting the themes, four major challenges of the PFP plan were selected as the main categories in this study. These challenges included (1) structural challenges, (2) operational challenges, (3) motivational challenges, and (4) biases in decision-making ([Table 2](#)).

4.1. Structural Challenges

In this regard, the topics raised by the interviewees included nine issues referred to in the following considering

each sub-category and an example of the transcribed interviews.

4.1.1. A Failure to Take Nurses' Expert Opinions While Developing the PFP Plan

According to the nursing staff and since the given plan had affected the performance of hospital staff, especially nurses, non-physicians' expert opinions were required to consider in the development of the PFP plan. For example, one of the participants stated, "In terms of developing and approving the guidelines, the expert opinions of the non-physician staff, especially nurses, should be regarded. A plan that would affect the performance of all hospital staff should be included in the survey of the non-physician ones".

4.1.2. Using and Copying of Numbers and Coefficients Used in Other Countries to Gain Performance Scores

As stated by some nurses in this study, individuals' performance scores were calculated on the basis of figures and coefficients that were not appropriate for the current status of hospitals and thus, needed some modification. In other words, computational formulas need to be customized. In this respect, an interviewee reiterated that: "They copied a number of formulas for calculating performance from elsewhere without reflecting on the fact that the overall working conditions in our hospitals and the job descriptions for nurses in Iran are different from the rest".

4.1.3. Giving Pays to Individuals Based on Department Incomes but Not Based on Their Performance

Some interviewees believed that the method of calculating pays to the staff was not entirely based on individuals' performance and it completely depended on incomes from each hospital department. In this respect, a respondent said that: "The pay guidelines in the given plan are based on department incomes, not individual performance. Of course, income and performance cannot be proportioned. There are departments that have high performance due to their different nature, but they do not make a lot of incomes for the hospital".

4.1.4. Dependence of Nurses' Scores on Physician Performance

According to some participants, the dependence of nurses' performance on those of physicians was a kind of unfairness and negligence of nurses' autonomy. For example, one of the interviewees added that: "If a physician in the department does not work much and the income drops, the nurses will not pay off. Now, the low-level performance of a physician will lower the performance ratings and consequently, reduce nurses' pays".

Table 2. Major Challenges of Implementing the PFP Plan in the Views of Nursing Staff

Main Category	Codes
Structural challenges	
	A failure to take nurses' expert opinions while developing the PFP plan
	Using and copying of numbers and coefficients used in other countries to gain performance scores
	Giving pays to individuals based on department incomes, not employee performance
	Dependence of nurses' scores on physician performance
	Sophisticated and vague design of the rating formulas
	Inconsistency with productivity law, labor laws, as well as articles from the national services management law
	The existence of computational errors in determining scores for nurses and departments
	Inequality in calculating distributable incomes
	Presence of only one qualitative indicator for evaluating individuals' performance
Operational challenges	
	Hasty implementation of the plan
	Pay inequity
	Increasing the gap between physicians and non-physicians
	Emphasizing on quantity and diminishing quality of services
	Department authorities' different tastes in calculating the scores of qualitative items
Motivational challenges	
	The inappropriateness of tools for monitoring nursing staff performance
	Spending too much time to complete necessary documents and neglecting provision of services to clients with no attention to different conditions of departments in paying them
	Emphasizing on external incentives and lowering the importance of internal motivators
Biases in decision-making	
	Considering only two occupational ranks of physicians and non-physicians for rating
	Assuming very high coefficients for physicians compared to nurses
	Increasing multiplied receives for first-level staff (faculty-member physicians, managers, and administrative staff)
	Avoiding implementation of the approved law on tariffing nursing services

4.1.5. *Sophisticated and Vague Design of the Rating Formulas*

For some interviewees, the rating formulas had a lot of complexity and ambiguity, and this could take a lot of time from nurses and even negatively affect their performance. In this regard, one of the participants said that: "There are complex computational formulas for performance evaluation, and the nurses encounter the same complicated computational formulas when they ask about how much they receive or whether their pays are fair or not".

4.1.6. *Inconsistency with Productivity Law, Labor Laws, as Well as Articles from the National Services Management Law*

The interviewees believed that some of the plan provisions including the overtime work by nurses were contrary to the laws of national productivity and services. In this respect, one of the participants stated that: "The law of productivity was approved based on the reduction of working hours among healthcare staff while this plan had much more emphasis on doing overtime work".

4.1.7. *The Existence of Computational Errors in Determining Scores for Nurses and Departments*

Some of the nurses argued that the rating of the nursing profession required differentiating between staff including administrative and financial staff due to the hard work and more responsibilities of the nurses. They stated that the importance and value that should be given to the nursing profession had been neglected. For example, one of the participants said that: "Nursing is a hazardous and stressful job and its rating should not be lower or even equal to the administrative and financial levels. Nursing is considered as one of the difficult and demanding jobs, and its merit pay coefficients need to be revised".

4.1.8. *Inequality in Calculating Distributable Incomes*

A distributable income is a percentage of the monthly income of a department that is distributed based on a series of criteria among the individuals in the same department. Some interviewees believed that the given incomes were not distributed equitably, and part of the incomes

was not calculated for nurses. In this respect, an interviewee said that: "Some incomes from drugs and medical equipment are not counted for nurses. Aren't nurses involved in the delivery of medications to patients or the use of some medical equipment such as a peripheral venous catheter and others?"

4.1.9. Presence of Only One Qualitative Indicator for Evaluating Individuals' Performance

One of the issues objected by the study participants was the overwhelming emphasis of the plan on quantity and existence of only one qualitative indicator called qualitative coefficient of performance for employee evaluation. In this respect, a respondent added that: "The number of patients, the number of operations, visits, and the same activities are all assumed as quantitative indicators and the only qualitative index available in this plan has little impact on total ratings, which cannot differentiate between high-quality and low-quality nurses since this indicator has its own floor and ceiling ratings".

4.2. Operational Challenges

In this respect, the subjects addressed by the interviewees included five cases which are outlined in terms of each sub-category along with an example of the transcribed interviews, as follows.

4.2.1. Hasty Implementation of the Plan

Some interviewees believed that the PFP plan, like health promotion plan, had started hastily and without considering the operational challenges ahead. Therefore, it was necessary to benefit from healthcare staff's expert opinions prior to its implementation. For example, an interviewee reiterated that: "The plan was implemented in haste without thinking about its consequences. The challenges that arose made it clear that the plan was not supported and implemented by a strong body of experts. Suddenly, some nurses' overtime work became zero and some of them received merit pays by millions".

4.2.2. Pay Inequity

According to some interviewees, the implementation of this plan did not lead to equal pays. For example, one of the study participants said that: "Based on the formulas of this plan, some may receive more money by the tastes of authorities in the departments even when they do less overtime work".

4.2.3. Increasing the Gap Between Physicians and Non-Physicians

Some interviewees believed that the implementation of this plan deepened the income gap between physicians and other staff. Moreover, an income gap was created between nurses working in different departments. In this regard, a participant stated that: "I work in the emergency department. Given all my workload and high stress, my merit pay is lower than that of my colleagues who work in quieter and higher-income departments". Another interviewee added that: "Based on the list available in the plan, there are physicians in hospitals who are receiving over 100-million merit pays. This is not really fair and it lowers motivation in nurses".

4.2.4. Emphasizing on Quantity and Diminished Quality of Service

According to some individuals, the implementation of the PFP plan affected the quality of services, given the high importance of the quantity of service provision in rating employees' performance. For example, a participant said that: "The summary of this plan suggests nurses the more they work, the more they will be encouraged. However, the quality of services provided is of minimal importance".

4.2.5. Department Authorities' Different Tastes in Calculating the Scores of Qualitative Items

The interviewees believed that the quality of nurses' performance was rated based on authorities' tastes in different departments in a way that they were rating nurses based on work experience and relationships. For example, a participant said that: "A quality coefficient is a number between 0.8 and 1.1. In terms of assigning these coefficients, more attention is always paid to work experience and relationships not merely to work quality. For example, a project-based employee does not get a higher rating than experienced ones".

4.3. Motivational Challenges

In this line, the issues posed by the interviewees included four cases that were mentioned in the following considering each sub-category along with an example of the transcribed interviews.

4.3.1. The Inappropriateness of Tools for Monitoring Nursing Staff Performance

The interviewees believed that the task of overseeing the work of nurses should be the responsibility of the specialized department of the nursing office, and other departments could not evaluate professional nursing performance. For example, one of the participants said that: "I

think the nursing profession is specialized and a unit such as clinical or discharge departments administered by non-nurses do not have the required competence to evaluate the work of the nurses”.

4.3.2. *Spending too Much Time to Complete Documents Necessary to Gain Ratings and Neglecting Provision of Services to Clients with No Attention to Different Conditions of Departments in Paying Them*

Some interviewees believed that submitting documentation and completing evaluation forms could take a lot of time and such activities made it difficult to give services to patients in some cases. In this respect, a participant said that: “Now, part of our time is spent on completing documents. I think that if we spend this time paying attention to patients, better results would be achieved. I personally used to give more time to my patients before implementing this plan”.

4.3.3. *Inconsistency Between Activities and Pays in Two Different Departments with Different Incomes*

As stated by some nurses, pays given to nursing staff with the same activities in various departments were different and this issue affected motivation in nurses in low-income departments. In this regard, a respondent said that: “At the moment, the department of pediatrics wherein I am working has little income, but the activities performed in this department by nurses are at higher levels and even more sensitive. So, we receive low pays due to low incomes made in this department”.

4.3.4. *Emphasizing on External Incentives and Lowering the Importance of Internal Motivators*

According to some interviewees, mere emphasis on financial and external incentives could lead to the destruction of the sense of altruism and conscientiousness. One of the participants said that: “I think that authorities should not think that they can only expect more and better services from nurses by paying more money. Money is only part of the compensation for hardships in occupations such as nursing. Authorities should also pay much more attention to internal incentives in order to encourage the sense of altruism and conscientiousness in nurses, which have been unfortunately overlooked in the PFP plan”.

4.4. *Biases in Decision-Making*

In this regard, the issues addressed by the interviewees included four cases which are mentioned regarding each sub-category with an example of the transcribed interviews, as follows.

4.4.1. *Considering Only Two Occupational Ranks for Physicians and Non-Physicians in Terms of Ratings*

Some nurses believed that the staff should not be only divided into two groups of physicians and non-physicians, rather some key jobs such as nursing counted as the main and sensitive hospital staff in providing services needed to be included in separate groups. In this regard, a participant said that: “Nursing, like medicine, is one of the key hospital staff, and it was better to be categorized individually and be endowed with separate benefits”.

4.4.2. *Assuming Very High Coefficients for Physicians Compared to Nurses*

The interviewees argued that the coefficients assigned to medical services were irrationally higher than those for nursing care were. In this regard, one of the respondents stated that: “There is no doubt that the coefficients of physicians should be greater, but the gap and the distance between the incomes generated by these coefficients are very high and do not seem fair. Even the coefficients of the nursing units, which are higher values than those of the nurses, can generate an income gap”.

4.4.3. *Increasing Multiplied Receives for First-Level Staff (Faculty-Member Physicians, Managers, and Administrative Staff)*

The interviewees believed that some staff had experienced multiplied increases in pays that did not seem reasonable considering their performance. For example, faculty-member physicians could receive 50% of commissions for operations without the presence in their workplace. In this respect, one of the respondents added that: “We expected that the implementation of the plan would reduce pay inequity. Unfortunately, now, it is reversed; and there is no transparency in it. For example, the rating for jobs of clinical nurses is 4, which is lower than that for support units or faculty-member physicians receiving 50% of commissions for operations without their presence in the hospital”.

4.4.4. *Avoiding Implementation of the Approved Law on Tariffing Nursing Services*

Interviewees objected to the lack of tariffs for nursing services and believed that the nursing services tariffing law needed to be enforced during the implementation of the PFP plan. For example, one of the participants said that: “The book used for giving relative values in the health promotion plan for physicians was updated and led to a significant increase in incomes; however, the nursing services tariffing law has remained inactive for years and not implemented. I think that putting this law into enforcement will

reduce the difference between receivables by physicians and nurses”.

5. Discussion

In the context of implementing the PFP plans in health-care organizations along with their impacts on qualitative and clinical indicators (review of executive indicators to identify challenges and those that need to be reformed), numerous studies have been conducted in different countries which were briefly mentioned as follows to facilitate comparing the findings of the present study with the results provided in the related literature.

In this respect, the results of a systematic review in the domain of PFP plans indicated that the majority of studies had failed in confirming the positive effect of the given plan. Part of the results of these investigations had only pointed to the unfairness existing in the PFP plans, which was consistent with the findings of the present study (19).

Moreover, Hasnain et al., conducted a study aiming to provide a specific theoretical perspective based on empirical studies of PFP plans to achieve the lesson learned by policy-makers in developed countries. Their findings from a total number of 110 studies on PFP plans showed that the majority of the studies (68 out of 110 studies) had endorsed the positive effects of PFP plans. In these studies, it was stated that the performance indicators of the employees were related to their bonuses and they had beneficial effects on employee satisfaction and the quality of their work, as well. However, other studies identified some content-related and structural challenges (including respect for fairness and quality of services) as constraints and challenges to the implementation of the plan and proposed that addressing these challenges was the main priority of the managers to better implement the PFP plan (20).

Some of the constraints and challenges of the content and the implementation of the PFP plan, based on the findings of Gerhart and Fang, were as follows: money was not merely a motivator, the PFP plan was only partly related to internal motivation to work in individuals, the plan had resulted in a decrease in people's willingness to work for a group and team, measuring performance was not sometimes sufficiently accurate and precise and lastly, this method might be very unfair in some cases, especially for workers inflicted with Hawthorn effect or they might play badly and do things to gain higher ratings in their performance evaluation (21).

The findings of a systematic review examining the results of 128 studies on the effects of PFP plans in health-care organizations suggested little evidence of the impact of PFP plans on coordination, continuity, patient-centeredness, and cost-effectiveness of the services. They

claimed that PFP plans could lead to motivation in employees if properly and intelligently implemented; otherwise, they could cause dissatisfaction and frustration. In fact, the success of a plan depended on its correct design and implementation. The results of this study demonstrated that, in addition to the implementation challenges of the PFP plan, there were some basic problems in the design of the plan including the determination of the coefficients and the performance rating methods (22).

Investigating the effect of PFP plans on quality of care for patients with blood pressure in the UK similarly showed that the quality of care for patients suffering from high blood pressure, prior to the implementation of the plan, was good and acceptable at a relatively high level; nevertheless, after its implementation, no significant and desirable effects were observed on the care process or the results of clinical care services to such patients. The study results indicated that financial incentives, as predicted in the PFP plan, appeared not to improve the quality of care and outcomes for individuals with chronic diseases and high blood pressure (23). The results of the present study also suggested that, first, financial incentives were not effective by themselves in terms of promoting the quality of service delivery but internal motivators were required to be also taken into account; second, financial incentives of the plan were more likely to be attributed to nurses' quantitative performance which could influence the quality of services.

In this regard, Werner et al. in their study examined the impact of PFP plans implemented in 260 hospitals of Philadelphia with hospitals that had been chosen as controls and covered by the Centers for Medicare and Medicaid Services. Accordingly, they compared the performance of the staff working in these hospitals with those in 780 hospitals that had been paid with bonuses through a PFP plan. The results showed that the performance of the hospitals in the study group had improved at the beginning of the plan compared to the control group, but after five years, the performance rating of the two groups was almost identical. Moreover, improvements were seen in hospitals that were more likely to attract more budgets to pay more benefits or they were acting in less competitive environments. The given researchers concluded that PFP plans for such hospitals could have positive impacts on the quality of staff performance (24).

Furthermore, Alshamsan et al. in their systematic review of the effects of a PFP plan shed light on the effects of such a plan on the quality and outcomes of services in healthcare centers and found 22 studies with 20 investigations in the UK. The findings from the given review showed that there was little evidence of that the use of financial incentives could reduce inequalities among different socioe-

conomic groups. In fact, inequity had even continued after the implementation of such plans in providing services to patients with chronic diseases, and among people of different age, gender, and ethnic groups. The researchers also argued that a PFP plan needed to be designed and implemented with the aim of moderating inequalities and improving the overall quality of healthcare services (25).

Epstein, in his study aimed at examining the effect of PFP plans on the quality of care, investigated 250 Canadian hospitals that had implemented the PFP plans. The results of the study showed that 2.6 to 4.1% of the improvements had been observed in the process quality indicators of these hospitals during the first two years of implementation of the plan. They also claimed that the quality criteria of PFP plans needed to be broadened and the incentives were required to promote the quality of care higher than the current level. On the other hand, higher motivators could reduce the access and quality of services to those sick and critically ill because any changes in the plans could usually affect both groups, which would improve the conditions for some people and they would not have any desired effects for others (26).

Jannati et al. also conducted a study on the effect of PFP plans on the efficiency of the laboratory unit of Imam Reza Teaching Hospital in the city of Tabriz, Iran. This study was an interventional research with a pretest/posttest design. In order to consider the changes, performance indicators were measured and compared from the beginning of 2012 to the end of 2012. The data were then collected by checking documents of the laboratory unit and the accounting center manually. Descriptive statistics were also used to compare the efficiency before and after the intervention. The findings indicated no significant difference in costs after the intervention compared to the pre-intervention stage, but the incomes of the laboratory unit were slightly higher than those before. Furthermore, laboratory errors had even increased compared to those before the intervention (from zero to 17 cases). Regarding these findings, it could be argued that incentives could be determined by setting predetermined goals and considering negative points for laboratory errors for all personnel at all levels of service delivery, including primary healthcare provider centers, pharmacies, diagnostic service providers, and the entire hospital (27).

In the present study, one of the challenges emphasized by interviewees was the infrastructural problems of the plan. Tavakoli et al. in their study entitled "Investigation into weaknesses of the performance-based plan in selected teaching hospitals" in the city of Isfahan, Iran, in 2015 addressed the three main weaknesses of the given plan, including flaws in policy formulation, delays in giving instructions, and weaknesses in setting up and constructing

infrastructure. The findings of the present study also indicated that the PFP plan had its own weaknesses. One of the negative points in implementing this plan after the revisions was the incorrect development of policies in the new plan. Systematic pays and performance-related interventions could also lead to discrimination and result in objections among the high-paid ones through the policies of paying low pays for their performance (18).

Moreover, Toulideh et al. conducted a cross-sectional research on the relationship between mechanisms of service compensation and job performance among nurses in 2013 in Valiasr Hospital and Lolagar Hospital in the city of Tehran, Iran. A total number of 221 nurses from two hospitals were randomly selected using a stratified random sampling method. The five-dimensional job performance questionnaire by Schwirin and a researcher-made job compensation questionnaire were also used for data collection. The results of the study showed that the nurses' job performance was moderate overall. Among the methods of service compensation, giving incentives, the possibility of continuing education, career promotion, and PFP were of the highest priority, in sequence. It was also noted that there was a statistically significant correlation between job performance and performance-related compensation, incentive periods, non-cash payments, monthly fixed payments, service tariff increases, and lowered working hours. Finally, it could be said that how nurses were paid could be considered as a major factor in their satisfaction and encouragement, and if this compensation process was properly managed, it could be an effective factor in supporting clinical care, job performance, and innovation (28).

5.1. Conclusions

The success or failure of a PFP plan can depend first on planning for it and second on how it is implemented. Despite numerous advantages of the implementation of this plan for some employees, a growing discontent was observed in some others. According to the findings of the study, reviewing the principles of paying employees according to the coefficients appropriate to each occupation, paying much more attention to the qualitative aspects of employee performance, and computing the payments based on individual performance not on the income of the departments seem to be necessary. Therefore, implementing this plan could result not only in benefits but also in observing equity and fairness. Therefore, the in-depth review of such plans and the involvement of stakeholders in drafting and developing laws and guidelines could reduce some of the challenges of implementing the PFP plan. It was hoped that the results of this study would enable decision-makers and planners to correct existing challenges and consequently promote them.

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Footnotes

Conflict of Interests: We have no conflict of interest to declare.

Ethical Considerations: The present study was approved with an ethics certificate from Mashhad University of Medical Sciences. The ethic certificate number is 97/242952.

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References

- da Graca B, Ogola GO, Fullerton C, McCorkle R, Fleming NS. Offsetting patient-centered medical homes investment costs through member-per-month or medicare merit-based incentive payment system incentive payments. *J Ambul Care Manage*. 2018;**41**(2):105-13. doi: [10.1097/JAC.0000000000000224](https://doi.org/10.1097/JAC.0000000000000224). [PubMed: [29298177](https://pubmed.ncbi.nlm.nih.gov/29298177/)]. [PubMed Central: [PMC5939953](https://pubmed.ncbi.nlm.nih.gov/PMC5939953/)].
- Chenot R. [Pay for performance in dental care: A systematic narrative review of quality P4P models in dental care]. *Z Evid Fortbild Qual Gesundheitswes*. 2017;**127-128**:42-55. German. doi: [10.1016/j.zefq.2017.06.001](https://doi.org/10.1016/j.zefq.2017.06.001). [PubMed: [28838794](https://pubmed.ncbi.nlm.nih.gov/28838794/)].
- Ottis JAA, Pearce PF, Langford CA. Effectiveness of pay-for-performance for chronic kidney disease patients on hemodialysis: A systematic review protocol. *JBI Database System Rev Implement Rep*. 2017;**15**(7):1850-5. doi: [10.11124/JBISRR-2016-003144](https://doi.org/10.11124/JBISRR-2016-003144). [PubMed: [28708749](https://pubmed.ncbi.nlm.nih.gov/28708749/)].
- Foskett-Tharby R, Nick H, Gill P. Pay for performance and the management of hypertension. *J Transl Int Med*. 2016;**4**(1):14-9. doi: [10.1515/jtim-2016-0004](https://doi.org/10.1515/jtim-2016-0004). [PubMed: [28191512](https://pubmed.ncbi.nlm.nih.gov/28191512/)]. [PubMed Central: [PMC5290909](https://pubmed.ncbi.nlm.nih.gov/PMC5290909/)].
- Anselmi L, Binyaruka P, Borghi J. Understanding causal pathways within health systems policy evaluation through mediation analysis: An application to payment for performance (P4P) in Tanzania. *Implement Sci*. 2017;**12**(1):10. doi: [10.1186/s13012-016-0540-1](https://doi.org/10.1186/s13012-016-0540-1). [PubMed: [28148305](https://pubmed.ncbi.nlm.nih.gov/28148305/)]. [PubMed Central: [PMC5288944](https://pubmed.ncbi.nlm.nih.gov/PMC5288944/)].
- Mendelson A, Kondo K, Damberg C, Low A, Motuapuaka M, Freeman M, et al. The effects of pay-for-performance programs on health, health care use, and processes of care: A systematic review. *Ann Intern Med*. 2017;**166**(5):341-53. doi: [10.7326/M16-1881](https://doi.org/10.7326/M16-1881). [PubMed: [28114600](https://pubmed.ncbi.nlm.nih.gov/28114600/)].
- Constantinou P, Sicsic J, Franc C. Effect of pay-for-performance on cervical cancer screening participation in France. *Int J Health Econ Manag*. 2016. doi: [10.1007/s10754-016-9207-3](https://doi.org/10.1007/s10754-016-9207-3). [PubMed: [28005224](https://pubmed.ncbi.nlm.nih.gov/28005224/)].
- Diamond F. Pay for performance. Losing mojo but getting props. *Manag Care*. 2015;**24**(8):20-2. [PubMed: [26401538](https://pubmed.ncbi.nlm.nih.gov/26401538/)].
- de Bruin SR, Baan CA, Struijs JN. Pay-for-performance in disease management: A systematic review of the literature. *BMC Health Serv Res*. 2011;**11**:272. doi: [10.1186/1472-6963-11-272](https://doi.org/10.1186/1472-6963-11-272). [PubMed: [21999234](https://pubmed.ncbi.nlm.nih.gov/21999234/)]. [PubMed Central: [PMC3218039](https://pubmed.ncbi.nlm.nih.gov/PMC3218039/)].
- Cromwell J, Trisolini MG, Pope GC, Mitchell JB, Greenwald LM. Pay for performance in health care: Methods and approaches. *Res Triangle Inst*. 2011. doi: [10.3768/rtipress.2011.bk.0002.1103](https://doi.org/10.3768/rtipress.2011.bk.0002.1103).
- Abduljawad A, Al-Assaf AF. Incentives for better performance in health care. *Sultan Qaboos Univ Med J*. 2011;**11**(2):201-6. [PubMed: [21969891](https://pubmed.ncbi.nlm.nih.gov/21969891/)]. [PubMed Central: [PMC3121024](https://pubmed.ncbi.nlm.nih.gov/PMC3121024/)].
- Ryan AM, Krinsky S, Kontopantelis E, Doran T. Long-term evidence for the effect of pay-for-performance in primary care on mortality in the UK: A population study. *Lancet*. 2016;**388**(10041):268-74. doi: [10.1016/S0140-6736\(16\)00276-2](https://doi.org/10.1016/S0140-6736(16)00276-2). [PubMed: [27207746](https://pubmed.ncbi.nlm.nih.gov/27207746/)].
- Kaptanoglu A. Performance based supplementary payment systems in Istanbul public hospitals. *J High Educ Sci*. 2013;**3**(2):128-32. doi: [10.5961/jhes.2013.067](https://doi.org/10.5961/jhes.2013.067).
- Greengarten M, Hundert M. Individual pay-for-performance in Canadian healthcare organizations. *Healthc Pap*. 2006;**6**(4):57-61. discussion 72-4. [PubMed: [16825859](https://pubmed.ncbi.nlm.nih.gov/16825859/)].
- Huillery E, Seban J. *Misplaced effort: Impact of a pay-for-performance scheme in the health sector*. National University of Singapore; 2016.
- Ogundeji YK, Jackson C, Sheldon T, Olubajo O, Ihebuzor N. Pay for performance in Nigeria: The influence of context and implementation on results. *Health Policy Plan*. 2016;**31**(8):955-63. doi: [10.1093/heapol/czw016](https://doi.org/10.1093/heapol/czw016). [PubMed: [27036415](https://pubmed.ncbi.nlm.nih.gov/27036415/)].
- Raeesi P, Alikhani M, Mobinizadeh M. [Pay for performance in Hashminejad Hospital in Tehran]. *Q J Health Manage*. 2011;**2**(1):27-36. Persian.
- Tavakoli MKS, Javadi M, Jabari A. [Investigation weaknesses of performance-based scheme (new directions fee plan) in selected teaching hospital in Isfahan in 2015]. *Q Study Health Manage*. 2015;**6**(4):81-9. Persian.
- Eijkenaar F, Emmert M, Scheppach M, Schoffski O. Effects of pay for performance in health care: A systematic review of systematic reviews. *Health Policy*. 2013;**110**(2-3):115-30. doi: [10.1016/j.healthpol.2013.01.008](https://doi.org/10.1016/j.healthpol.2013.01.008). [PubMed: [23380190](https://pubmed.ncbi.nlm.nih.gov/23380190/)].
- Hasnain Z, Manning N, Pierskalla JH. *Performance-related pay in the public sector: A review of theory and evidence*. The World Bank; 2012. doi: [10.1596/1813-9450-6043](https://doi.org/10.1596/1813-9450-6043).
- Gerhart B, Fang M. Pay for (individual) performance: Issues, claims, evidence and the role of sorting effects. *Hum Resour Manage R*. 2014;**24**(1):41-52. doi: [10.1016/j.hrmr.2013.08.010](https://doi.org/10.1016/j.hrmr.2013.08.010).
- Van Herck P, De Smedt D, Annemans L, Remmen R, Rosenthal MB, Sermeus W. Systematic review: Effects, design choices, and context of pay-for-performance in health care. *BMC Health Serv Res*. 2010;**10**:247. doi: [10.1186/1472-6963-10-247](https://doi.org/10.1186/1472-6963-10-247). [PubMed: [20731816](https://pubmed.ncbi.nlm.nih.gov/20731816/)]. [PubMed Central: [PMC2936378](https://pubmed.ncbi.nlm.nih.gov/PMC2936378/)].
- Serumaga B, Ross-Degnan D, Avery AJ, Elliott RA, Majumdar SR, Zhang F, et al. Effect of pay for performance on the management and outcomes of hypertension in the United Kingdom: Interrupted time series study. *BMJ*. 2011;**342**:d108. doi: [10.1136/bmj.d108](https://doi.org/10.1136/bmj.d108). [PubMed: [21266440](https://pubmed.ncbi.nlm.nih.gov/21266440/)]. [PubMed Central: [PMC3026849](https://pubmed.ncbi.nlm.nih.gov/PMC3026849/)].
- Werner RM, Kolstad JT, Stuart EA, Polsky D. The effect of pay-for-performance in hospitals: Lessons for quality improvement. *Health Aff (Millwood)*. 2011;**30**(4):690-8. doi: [10.1377/hlthaff.2010.1277](https://doi.org/10.1377/hlthaff.2010.1277). [PubMed: [21471490](https://pubmed.ncbi.nlm.nih.gov/21471490/)].
- Alshamsan R, Majeed A, Ashworth M, Car J, Millett C. Impact of pay for performance on inequalities in health care: Systematic review. *J Health Serv Res Policy*. 2010;**15**(3):178-84. doi: [10.1258/jhsrp.2010.009113](https://doi.org/10.1258/jhsrp.2010.009113). [PubMed: [20555042](https://pubmed.ncbi.nlm.nih.gov/20555042/)].
- Epstein AM. Will pay for performance improve quality of care? The answer is in the details. *N Engl J Med*. 2012;**367**(19):1852-3. doi: [10.1056/NEJMe121233](https://doi.org/10.1056/NEJMe121233). [PubMed: [23134388](https://pubmed.ncbi.nlm.nih.gov/23134388/)].
- Jannati A, Kabiri N, Asghari Jafarabadi M, Pourasghari B, Bayaz B. [Surveying impact of performance based payment on efficiency of clinical laboratory of teaching hospital of Imam Reza in Tabriz]. *J Hospital*. 2015;**14**(1):51-62. Persian.
- Toulideh Z, Roshani M, Nasiripour AA, Sadeghifar J. [Relationship between mechanisms of services compensation and job performance among nurses]. *J Urmia Nurs Midwifery Faculty*. 2016;**14**(3):282-90. Persian.