



## **Performance Evaluation Criteria for Hospitals' Managers: A Qualitative Study**

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### **ARTICLE INFO**

#### **Article History:**

Received: 25 Sep 2018

Revised: 5 Dec 2018

Accepted: 19 Mar 2019

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### **ABSTRACT**

**Background:** Hospitals are the most important element of the health system. Hospitals play a key role in providing health services and have a major impact on the health system's performance. The success of organizations depends on their managers' performance. Organizations with qualified and experienced managers will be more successful in achieving their goals and can reach optimal efficiency.

**Methods:** This is a phenomenological qualitative study in which content analysis was used to achieve study objectives. The study population included the hospitals managers and senior experts of the vice chancellor for treatment of a provincial department of the Ministry of Health and Medical Education in Iran. Participants were selected by purposive and heterogeneous methods and data collection continued until data saturation was achieved. Data were collected by semi-structured face-to-face interviews.

**Results:** From our data, seven main themes were drawn, consisting of monitoring and control, planning, organizing, leadership and motivational factors, management of resources and information, communication and interdepartmental coordination and patient orientation

**Conclusion:** Hospital managers play a key role in improving hospital function. Assessing hospital managers' performance, determining their strengths and weaknesses and taking corrective actions are beneficial to the improvement of hospitals' performance.

**Keywords:** Performance Assessment, Hospital Management, Qualitative Study

### **Citation**

**This paper should be cited as:** Pezeshki A, Almasian A, Salehi S, Zahabi F, Jahanfar M, Amraei H, et al. **Performance evaluation criteria for hospitals' managers: A qualitative study.** Evidence Based Health Policy, Management & Economics. 2019; 3(1): 52-65.



## Introduction

Due to demographic and epidemiological changes, the advancement of medical sciences and technologies, and the changing expectations of the public and patients, health policy-makers must inevitably create certain reforms in the health system, at the macro level, and in healthcare organizations, at the micro level (1).

These environmental changes, especially the increasing competition in the field of trade and industry, have intensified the significance of efficient and desirable managers (2).

As a major component of the health system, hospitals play a key role in providing health services and have a major impact on the health system's performance (3).

According to the World Health Organization (WHO) report, in many countries, a substantial (over half or even two thirds) of the public health system resources are absorbed into hospitals. However, the lack of optimal management and allocation of these resources leads to waste of them, so that an estimate shows that 20-40% of health resources are being wasted.

Hospital managers should therefore fulfill necessary requirements (4).

Poor management of hospitals is one of the most important factors for their low performance (5).

Various studies have reported that poor management and leadership in health care organizations increase costs, lead to patient and staff dissatisfaction, and reduce organizational efficiency and ultimately decline community health (6-9).

Effective hospital management has led to the development of organizational culture (10), improvement of staff performance (11), improvement of the quality of provided services (12), and efficiency (13) of the hospital.

Therefore, due to the key role of managers in the success of health care organizations, efficient selection and assessment of managers and their empowerment have drawn a great deal of considered (14).

The performance assessment of hospital managers should be based on functional standard

criteria and accurate measurement of performance indicators with the aim of improving managers' performance so that hospital performance can be improved (15).

If performance assessment system for hospital managers is efficient and tangible and measurable indicators are developed to assess their performance, they can reduce many hospital costs and provide better quality services to patients (16).

The results of the evaluations can be used to identify and understand the managers' talents and competencies, to inform managers about the progress of the procedures, programs and goals, and to identify the weaknesses and strengths so that strengths can be emphasized and deficiencies can be resolved (14).

Several studies have been conducted in Iran to assess the performance of hospital managers in accomplishing their duties and management functions.

In these studies, management tasks such as planning, supply of human resources, decision making, organization, coordination, communication, leadership and control have been assessed (17-20).

Since performance assessment results are affected by assessment criteria and indicators, care must be taken to select the assessment criteria that really represent the performance and ability of managers without being influenced by the performance of the hospital (21).

Therefore, the present study was conducted to draw the necessary assessment criteria for the performance of the hospital heads and managers.

The results of this research can provide valuable information to the professionals of the hospitals and authorities of the universities of medical sciences and health services, as well as a basis for better selection of managers and planning for the development and empowerment of hospital managers.

## Materials and Methods

The present study is a phenomenological qualitative study conducted with the aim of



drawing the necessary assessment criteria for the performance of the hospital heads and managers.

Participants in this study were hospital managers, hospital affairs experts, and managers and experts of the hospital supervision and evaluation at the Treatment Department of Lorestan University of Medical Sciences, as well as managers and managers of the hospitals affiliated with the University who were selected by purposive sampling and then enrolled in the study.

Considering that there is no emphasis on the scale or statistical estimation in qualitative research, but rather it is important to select as much appropriate samples as possible to the purpose of the research, we selected potential participants from already known individuals by non-random, purposive sampling.

Purposive or criterion-based sampling aims to preferably select participants based on the purpose of the research rather than using random sampling methods (22).

In this method, the researcher selects individuals who can give as much useful answers to the research questions according to the study purposes, and sampling continues until data saturation is achieved.

The inclusion criterion was having a work experience of at least 1 year as a hospital supervision experts, hospital head or hospital manager. The study was carried out in two phases and the data were collected using semi-structured interviews.

A total of 30 hospital experts, managers and heads participated in this study, of whom 6 were specialists, 7 were general practitioners, 13 had master's degrees and 4 had bachelor's degrees.

In the first phase of the study, 7 hospital supervision experts from the University's Department of Treatment were interviewed, and in the second phase, 12 hospital heads, 11 hospital managers and 4 hospital supervisors were interviewed within six sessions of focus group discussions (FGDs).

It should be noted that four of the hospital supervisors participated in both first phase interviews and FGDs.

The number of participants in FGDs varied from 6 to 12. In the first phase, the managers and experts of the Department of Treatment were interviewed.

A interview guide was designed using participants' opinions after three interviews with them.

Each interview lasted 75-130 (average; 93) minutes, and the interviews were conducted in the Deputy of Department Headquarters at participants' convenience

Interview was started with the question What are the most important criteria for assessing hospital heads and managers? and then was led to the purposes of the research. Immediately after each interview, the whole interview was transcribed and coded.

Latent content analysis was used to analyze the data.

To analyze data, after listening repeatedly to each interview and reading line-by-line the materials drawn from the interview audio, the important phrases in the content of the data were selected, and then the appropriate concepts (open codes) were determined, and simultaneously assigned to different categories by continuous comparison of them based on similarities and differences.

Open codes assigned to one category based on their similarities formed the subcategories, and finally, the initial themes were drawn by the integration of a number of categories (23).

Then, two checklists were designed based on the categories and themes to assess the performance of the head and manager of the hospital.

In order to ensure the validity and reliability of the data, they were investigated for Lincoln and Guba's Evaluative Criteria including credibility, confirmability, transferability and dependability (24).

To ensure the credibility and reliability of the research data, an effective and trustworthy relationship was established with the participants by clearly explaining the study purpose, ensuring that their information would be kept confidential and analyzed as anonymous, and providing the interview transcripts to them after completion of



data analysis to elicit their opinions. Finally, the checklist designed to assess the performance of hospital heads and managers was also confirmed by the participants.

The second phase of the research was designed in order to ensure the reliability and feasibility of research findings in the hospital environment.

In this phase, the heads and managers of the hospitals that fulfilled our inclusion criteria were assessed using the checklist designed in the first phase.

After six FGDs with hospital heads and managers, the results of assessment were examined and the criteria for performance assessment of the hospital heads and managers were revised and finalized.

Given that in the FGD, individuals are allowed to ask open questions and also talk about various issues, especially potentially critical issues; it is one of the best ways to collect and evaluate information (25).

Then, by analyzing the contents of data in this phase, final categories and themes regarding the performance of hospital heads and managers were codified, and the already designed by checklist was revised and finalized.

In order to ensure the transferability of the findings, participants were selected at the two levels: headquarters (hospital performance-overseeing managers and experts) and executive (hospital heads and managers).

In order to ensure dependability, researchers made every possible attempts not to include their assumptions in the process of data collection and analysis.

In this research, ethical considerations such as explaining the purposes of the research to participants, obtaining oral consent to participate in the study from them, keeping their information anonymous, allowing them to withdraw from the study whenever they wished, and maintaining the interview transcripts in a safe place were observed.

## Results

From the analysis of the data regarding the performance assessment of the hospital heads and

managers in our study, eight categories consisting of planning, monitoring and control, organization, resource management, information management, guidance and leadership, interdepartmental coordination, and hospital services development and hospital improvement and 31 subcategories were drawn (Table 1).

Monitoring and control: All of our participants considered monitoring one of the most important duties of the hospital head and manager.

Due to the complexity of the hospital, the availability of different specialties and the interdependence of the performance of different treatment and logistics departments, continuous supervision and monitoring of the performance of different departments can lead to the provision of high quality services for patients.

One of the participants in this regard said:

The performance of the various hospital units reflects the performance of the hospital's management team. The hospital's management team, by managing the performance of different units, can coordinate the complex system of the hospital environment.

It is better for the hospital head to focus on the treatment problems of the departments and for the hospital manager to focus on the logistic problems of the departments. (Participant no. 1)

The presence of the head and manager of the hospital in the treatment and logistics departments and supervision of their performance can improve their decisions regarding the prioritization of limited resources available to address the deficiencies of these departments, as well as lead to the codification, implementation and evaluation of department performance promotion programs.

By analyzing the reports of visits and developing corrective programs, we can improve the quality of services of different hospital departments.

One participant in this regard said:

Given the role of the continuous presence of the head, manager, and matron of the hospital in treatment and logistics departments in providing quality service to the patient, recording reports and analyzing management visits to treatment





departments can be one of the assessment criteria of managers' performance...

Monitoring the more sensitive departments should be done with greater care and more frequently.

It is necessary that the head of the hospital visit the emergency department and clinic on a daily basis, ICUs on a weekly basis and treatment departments on a monthly basis.

Hospital manager should also constantly visit all departments and examine the logistic problems and deficiencies of the departments and plan for resolving them. (Participant no. 5)

The monitoring of the departments that are considered to be infectious disease control bottlenecks in the hospital and the impact of their performance on the general health of the community and patients were emphasized by many of our participants.

Certainly, to assess hospital management, it is necessary to take into account a unit such as waste disposal unit whose function affects the general health of the community. (Participant no. 3).

Another participant said: The supervision of the manager and head must include all the hospital units ... The laundry and the CSR are the bottleneck of infection control. The in-person supervision of the hospital head will surely improve the performance of these units. (Participant no. 2)

Another participant also said:

"There are units in the hospital that are considered somehow forgotten. Such as the mortuary; one of the criteria for assessing the performance of the hospital manager is the supervision of these departments.

For example, decay or damage of a corpse can lead to a major crisis in the city and the university. (Participant no. 6).

The supervision by the head and the manager of the hospital should be comprehensive and include all clinical, Para clinical and logistics departments of the hospital.

Since many services in hospitals are contracted out, supervision of the departments whose activities are delegated to the private sector is also

a criterion to assess the performance of hospital heads and managers.

One of the participants said: Hospital management is held responsible for supervision of the wards that are delegated. By delegating [provision] of a service to the private sector, such as injections, difficulties will increase ... Continuous monitoring of these sectors ensures their proper performance. (Participant no. 12).

Another participant said: Establishing order in the hospital is a standard for measuring the performance of managers. The treatment departments should be a relaxing atmosphere for patients that will be possible by monitoring the performance of the watchmen (Participant no. 16).

Planning: From our participants' perspectives, planning, as one of the main duties of management, serves as a criterion to assess managers' performance. The characteristics of successful managers include having a strategic perspective, understanding the complexities of the hospital, and implementing strategies within the framework of an operational plan.

One of the participants said: The hospital is a complex organization and its function without strategic planning and operational planning in line of it will be out of control (p. 11).

The management team's commitment to hospital programs is essential to implement them. Hospital plans should be in line with the plans of the University of Medical Sciences and the Ministry of Health, and feasible.

In this regard, one of the participants said: Hospital plans should be in line with the plans of the Ministry (of Health, Treatment and Medical Education). Currently, the Ministry, considering the country conditions, is emphasizing cost cutting.

Consider two points for assessing managers: 1: Are the major measures taken at the hospital level consistent with the strategic and operational plan? 2: Is the assessment plan and its deviation identifiable and are the reason for its deviation and corrective solution presented? (Participant no. 7).

Organization: Another assessment criterion talked of by our participants was the organization of currently available resources.



Although hospitals are usually faced with shortage of human and financial resources, the performance of departments and hospitals can be substantially promoted by correcting processes and organizing available resources.

One of the participants said: "Despite all the shortcomings, the human resources can be improved to a great extent by improving the performance ... The analysis of manpower need will provide the conditions for force recruitment.

The programs will be implemented in appropriate structure, and managers can plan for continuously improving the services provided by modifying the structures and processes (Participant no. 21).

One of the participants said: Despite all the limitations, it is possible to continuously improve the quality of the services provided by drawing processes [and] modifying and assessing them and repeating this cycle.

#### Leadership

Leadership is one of the most important principles of management that need to be considered in assessing managers.

Successful managers are managers who can clearly identify the goals of the organization and align them with the goals of the staff.

Supervising staff and rewarding them to achieve the organization's goals is one of the main duties of management.

One of the participants said: The main responsibility of the hospital head is supervision. Supervising the work of the manager, matron, departments' heads, doctors and nurses, this monitoring is done cascading and if done correctly, the work of the hospital is under way.

This supervision is not intended to take hand at the scene of the crime. This monitoring is intended to persuade staff to perform their duties. (Participant no. 5)

Another participant said: If we want to assess a hospital head, we should ask her about her choices. Why has Mr or Mrs X been chosen as manager or matron. What are his choice criteria and how does

he assess his work? (Participant no. 16).

Due to the big pay gap between various specialists and other staff in the hospital, motivational factors play a significant role in improving the activities.

One participant in this regard said: Across the hospital, there are many people, from specialist to illiterate, and these should have motivation to work properly.

Certainly, the motivational factors of a specialist are totally different from [those of] a serviceman, a manager is successful who knows where [and] what reward and punishment to use and for whom. (Participant no. 17)

Staff reward will be effective to achieve organizational goals if staff feel that the work environment is appropriate for them, and that managers make decisions while taking into account their wishes and welfare.

#### Resource and information management

The lack and uncertainty of financial resources is one of the main challenges facing the health system of Iran and can have adverse effects on the financial decision making process in the hospital.

Understanding the resources and managing hospital costs and expenditures helps its managers have a dynamic picture of their activities and goals, and therefore make decisions for the future more informedly and confidently.

One of our participants (no. 19) stated: One of the demands of the Ministry (the Ministry of Health, Medical Education and Medicine) from hospitals is the management of hospital resources and expenditures.

When assessing the performance of the hospital management team, attention should be paid to the upstream goals of the organization and give much importance to it.

In the shortage of resources, prioritizing resources and taking effective preventive measures to manage the costs and organizing hospital financial management can help the organization achieve its purposes.

One of the participants in this regard said: In the current conditions in which we face resource



shortage, a manager who prevents probable losses by performing periodic services is successful (Participant no. 17).

Another participant said: Funds should be spent on programs that bring the most benefit to patients and hospitals.

If we wanna assess the head of the hospital, we should look at where he has spent the financial resources and what prioritization criteria are to him. (Participant no. 11)

Another participant in this regard said: It must be seen whether managers have a plan to organize and reduce the insurance deductions and how much cost they have saved through this way. (Participant no. 20)

Information management is considered to greatly assist managers in the decision making and the appropriate use of correct information will lead managers to the routes to the organizational purposes.

In assessing hospital managers' performance, their mastery and use of critical hospital information should be taken into account. One participant in this regard said: A manager is successful who knows the main criteria of his hospital decides according to them. (Participant no. 18)

Since the hospital environment is dynamic and complex, managers need to pave the way to reach purposes by timely use of information.

One participant said: Because error in hospital is inevitable, hospital should be a learning organization.

That is, we should prevent them by identifying and analyzing the error ... We will obtain this information from analysis of dispatches, from the analysis of doctors' counseling, satisfaction assessments, and examination of complaints. (Participant no. 2)

#### Interdepartmental coordination

Hospital managers perform their responsibilities according to the health system guidelines and regulations.

Hospitals are multifaceted social institutes that cannot by themselves achieve the purposes of the health system. It is therefore necessary to include their coordination with other parallel and higher-

ranking institutes in assessment of their performance.

One of the participants (no. 4) said: It is very important that the goals of the hospitals are codified in alignment with the objectives of the university and the Ministry (of Health and Medical Education) ... When assessing the heads, their rate of cooperation with the headquarters (of the University of Medical Sciences) and other hospitals should be taken into consideration.

Another participant in this regard said: A hospital can show its performance better [than what it is in reality] by referring or lack of admitting critically ill patients or deactivating high-risk wards.

When assessing the heads, it should be noted that how much the head of the hospital cooperates with the university and other hospitals to meet the needs of patients. (Participant no. 2)

#### Patient orientation

Patient orientation and patient amenities was also one of the criteria for performance assessment of hospital managers from our participants' perspectives. Amenities are one of the bases for assessment of the quality of services by patients and their companions, and giving attention to them is one of the important duties of the hospital head and manager. One of the participants in this regard said: The duty of the management team is to improve the quality of patient services ... the quality, from the patient's perspective, means welfare facilities and hoteling (Participant no. 15).

Another participant in this regard said: In assessing the manager, consider the hospital space. Managers who provide a relaxing and pleasant atmosphere for patients and who are mindful of the well-being of patients should be prioritized. (Participant no. 1).

Access to the services provided by the hospital is considered one of the rights of citizens, so hospital managers should provide conditions for citizens to enjoy convenient access:

Due to the overcrowding of hospital clinics, managers should provide an electronic turnkey infrastructure in the hospital so that all classes of people can use clinics. (Participant no. 14).

**Table 1.** Categories and subcategories Identified for assessment of hospital managers' performance

Main categories	Subcategories	Primary codes
Supervision and control	Monitoring of treatment (outpatient and inpatient) and logistics departments	Active presence in the departments, environmental examinations, entering the hospital through the emergency department, supervising logistics departments.
	Special supervision on relegated departments	Checklist for assessment of delegated departments, contract-based assessment
	Supervision on hospital infection control bottlenecks (laundry, central sterilization, hospital waste safety, and mortuary)	Supervision along with infection control and environmental health experts, supervision of infection bottlenecks
	Assessment of management visits to hospital departments and taking corrective actions	Purposeful monitoring, supervision based on scientific criteria, using checklists, the problems noticed in the previous visits
Planning	Supervision of physical security staff and peacefulness of treatment departments	Relaxing environment of the department, Visit schedule, the hospital front line
	Codification, implementation, and assessment of the hospital strategic planning	Long-term plan, proceeding along with the strategy, achieving the strategic purposes
	Codification, implementation, and assessment of the hospital operational planning	Working with the plan, setting achievable purposes
	Codification, implementation, and assessment of the plans for cutting costs	Successful experiences of other hospitals, cutting costs
Organization	Codification and correction of processes	Recording the current process, correcting the processes, continuously improving the processes
	Analysis and correction of human resource distribution	Distribution of human forces, department understaffing, overstaffing
	Analysis of manpower needs	Informing the needs, assessing human forces
	Assessment and guidance of the internal manager's performance	Criteria to select manager, the manager's performance
Leadership and motivational factors	Assessment and guidance of the nursing manager's performance	Criteria to select nursing manager, the nursing manager's performance
	Assessment and guidance of the treatment departments officials' performance	Assessment checklist for the department head, the department staff satisfaction
	Assessment and guidance of the specialists' and general practitioners' performance	Physician advice services, observing the clinical standard
	Utilizing motivational tools to encourage and punish staff	Implementing the Ghasedak, staff reward and punishment committee, setting the reward and punishment criteria
Resources and information management	Directing attention to occupational health and the patients' and staff's health and safety	Annual examination of staff, safe work environment
	Codification and implementation of the hospital's main indicators	Bed occupancy rate, bed rotation, daily active bed, cesarean section rate
	Patient and staff satisfaction assessment and analysis of the results	Satisfaction assessment committee, detecting complaints
	Directing attention to the complaints and taking corrective actions	Complaints committee, following up complaints



Main categories	Subcategories	Primary codes
		after obtaining consent
	Heads' and managers' mastery over the guidelines of accreditation and quality improvement	Accreditation-based checklist, the performance guidance accreditation, managers' mastery over accreditation
	Analysis of patient dispatch to outside the hospital	Analysis of physician-based dispatch, dispatch status, dispatch staff, dispatch equipment
	Management of resources and expenditures	Cutting costs, increasing revenues, developmental plans
	Analysis of the hospital insurance deductions	Deductions for different physicians, reasons for deductions, deductions in different departments
	Management of the hospital equipment and conduction of periodic maintenance	Periodic maintenance, green label examination, equipment certification
	Management of settings and periodic maintenance	Visiting the settings, water resource, emergency power
Interdepartmental communication and coordination	Making coordination with the Deputy of Treatment and development of the University to implement the University plans	Upstream plans, accountability, appropriate relationship with the University
	Cooperating and making coordination with other universities of the County and the Province to provide holistic services to the patients	Comprehensive provision of services, making coordination with other centers, making coordination with the Headquarters
	Monitoring the turnkey system of the clinic	Internet and telephone turnkey, physicians' appointment scheduling to the clinic
Patient orientation	Providing amenities to the patients and companions	Accompaniers' rest places, inpatient room hoteling
	Beautifying the physical spaces inside and outside of the hospital	Optimal utilization of the hoteling resources, the Green Hospital
	needs assessment of healthcare services, and improvement and development of the spaces needed	Purposive development, resource-based provision of services

## Discussion

The aim of this study was to determine the performance assessment criteria of the heads and internal managers of the hospital.

The findings of this study showed the criteria that should be taken into consideration in assessing the performance of the hospital management team, include control and monitoring of health care and logistics departments; codification, implementation and evaluation of strategic and operational planning for the hospital; organization of hospital activities; leadership; human resources, financial and information management; interdepartmental

coordination, patient orientation and patient amenities.

Many of the studies conducted in this area have considered the organization's performance indicators to be criteria for assessing managers. Since the results regarding performance indicators, in addition to being influenced by the performance of managers, are also affected by other organizational factors (21), in the current study, attempt was made to explain performance assessment criteria of managers in a way that assessment criteria would represent only the performance and ability of managers without being affected by the performance of the hospital.





The study of Jannati (26) to develop a performance assessment tool for hospital managers in Iran reported planning, organization, leadership, information management, resource management, clinical governance, and performance as being indicators to assess hospital managers' performance, which is consistent with our study's results.

The World Health Organization (WHO) presented a model consisting of the criteria clinical effectiveness, patient safety, patient orientation, technical efficiency, employee orientation and accountability in 2003 for assessment of hospital performance.

To develop this instrument, eight countries were included in the study, ultimately arriving at the conclusion that the performance of hospitals in a country should be assessed according to the factors specific to that country (27).

In a qualitative study, Barati considers communication skills, experience, appreciation of subordinates, managerial skills, motivational skills, problem-solving skills, ethics and awareness of financial and legal issues to be essential for managers (28).

Kermani has defined the competencies required of hospital managers in three dimensions: individual, technical, and interactive (29).

In a study, McKinnon also identified the skills required of managers of health care organizations; and found that out of the 31 skills identified, perceptual communication and skills, team building, and collaborative accomplishing of work were given the highest scores (30).

The privileged feature of this study was the identification of criteria to assess the hospital heads and managers in the context of Iranian hospitals and during the interview with the participants, measurable performance criteria were focused.

Therefore, the main classes of this study were not based on the personal characteristics of managers, such as perceptual skills and problem solving, but were based on functional tasks such as monitoring and planning.

Besides, time-dependent programs and performance were drawn as categories within the framework of functional tasks.

For example, Jannati (26) regarded the implementation of the Clinical Governance Program as one of the instruments to assess hospital managers' performance.

Clinical Governance Program, which was implemented between 2009 and 2015, is a program aimed to improve quality in which service providers are held responsible to the constant improvement of quality (31).

Currently, the programs successful experiences of hospital managers, performance-based payments (Ghasedak) and hospital accreditation are being implemented in order to improve the quality of services in hospitals across the country.

Implementation of these programs was incorporated into control and monitoring, planning and interdepartmental coordination, so that if new programs will replace current programs, they will fit into the main categories of the study.

In this study, the supervision and control of the hospital management team on the treatment and logistics departments was drawn as the most important criterion for assessment of managers' performance.

Anam Parand argued that hospitals that accomplish high-level monitoring activities deliver higher quality care and have lower mortality rates (32).

Osman Slipicevic also reported in his study the ability of supervision and control to be one of the most important skills needed by today's managers in health care centers (33).

Formulation, implementation, and assessment of planning is another benchmark that should be considered in the assessment of hospital managers.

In one study, Ginter (34) considered it essential for managers to have the ability to formulate and implement a strategic and operational plan, taking into account the dynamic, complex and changing environment of the healthcare centers.

Jannati also considers planning to be the most important criterion for assessment managers, and



commitment to plan implementation essential for high-ranking hospital management (2).

The organization, mastery over the hospital structure, and the formulation and reform of the processes were also reported as being criteria for the assessment of managers.

In one study, Andreasson (35) argued that managers are key to organizational change in health care centers and should provide safe services for patients by organizing resources.

Hayati (36) also identifies the ability to modify structure and organization as one of the criteria to judge the qualification of managers.

Leadership and paying attention to motivational factors was also drawn as one of the criteria for assessment of hospital managers. Effective leadership plays an important role in organizational success (14).

Leadership in the health sector refers to the mobilization of resources, motivation and empowerment of staff and inspiration for achieving the goals of the organization (37). Sherman et al. (38), consider leadership the most important qualification for organizational managers.

In addition, resource and information management was drawn as another criterion to assess managers.

Currently, the health systems across the world are increasingly faced with the challenge of inadequate resources and their inappropriate distribution (39).

Implementing resource management, improving the efficiency and effectiveness of decisions, prioritizing health needs, and allocating resources to programs in accordance with priorities will enhance the quality of the services provided and will partly address the challenges of this area (40, 41).

The World Health Organization (WHO) report states that in developing countries, the lack of management and optimal allocation of health sector resources in hospitals leads to waste of 20-40% of health sector resources (42).

Adindu believes that optimal resource management skills are essential for hospital managers, and argues that most hospital managers do not have sufficient skills to distribute resources

equitably and optimally (43). Shewchuk and MacKinnon also found it as essential for hospital managers to become familiar with financial resources and budget management (44, 45).

Another criterion for assessment of managers' performance drawn in our study was interdepartmental coordination. Barati (28) and Slipicevic (46) in their studies found communication and coordination skills to be among the most important skills required of hospital managers and regarded their education to managers as essential.

Patient orientation and directing attention to patients' needs was another criterion to assess hospital managers' performance. Patient orientation is known as a desirable property of health services. The provision of patient-centered care requires a patient-centered hospital that respects the preferences, amenities, needs and values of patients (47).

Gabutti (40) has emphasized that the patient should be the center of attention in the healthcare centers, and today's hospital managers need to make necessary changes to the hospitals to meet the patients' needs for the sake of patient orientation (40).

### Conclusion

Assessing hospital managers' performance based on tested applied and scientific criteria for their performance and duties in the hospital environment will lead to continuous improvement of the hospital performance.

Assessing the performance of the heads and managers of the hospitals, based on precise criteria, will determine their strengths and weaknesses, as well as their educational needs.

It is recommended to develop a checklist based on the findings of this study, including the subcategories drawn, and to assess it according to the performance of the heads and managers of the hospital.

### Authors' contributions

Pezeshki A designed the research; Almasian A conducted the research; Salehi S, Zahabi F, Jahanfar M, Omaraei H Collected data; Keshvari M, Almasian A, Pezeshki A Analyze Data;



Keshvari M, Zahabi wrote the paper . All authors have read and approved the final version of the article.

### Acknowledgments

The authors appreciate the cooperation of all the participants who assisted in conducting interviews

and FGDs.

### Conflicts of Interest

The authors declare that they have no conflicts of interest regarding this study.

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