



Identification of Effective Components in Hospital Performance Assessment: A Qualitative Study

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Received: 26.08.2019

Accepted: 06.04.2020

Published online: 20.06.2021

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Citation:

Malekzadeh R, Abedi Gh, Mahmoodi Gh. Identification of effective components in hospital performance assessment: A qualitative study. J Qual Res Health Sci. 2021; 10(2):100-107.

Abstract

Introduction: An appropriate and applicable model of hospital performance assessment can potentially lead to accountability, quality of service, and patient satisfaction. The purpose of this study was to identify the effective factors on hospital performance assessment.

Methods: In this qualitative study, in order to elucidate the experts' experiences of hospital performance assessment, based on purposive sampling, individual semi-structured interviews were conducted with 27 health services management professors, university and hospital managers, national accreditors, and the authorities in charge of quality improvement of hospitals in Mazandaran Province. Interviews were recorded, transcribed, codified, classified, and analyzed based on the conventional content analysis approach.

Results: The participants' experiences indicated the need to take into account all dimensions influencing performance assessment as well as a balanced measurement of the structure, process, outcome, control, and context of the hospital that provides services. Totally, 5 main themes and 18 sub-themes were extracted from the data analysis.

Conclusion: The results of this study indicated that a comprehensive performance assessment system needs to measure all dimensions of hospital performance. It is therefore recommended that in hospital performance assessment, in addition to traditional attention paid to resources and facilities, hospital processes, the outcomes of proper implementation of processes, control, and the context in which the hospital provides services also be taken into account.

Keywords: Assessment, Performance assessment, Hospital, Qualitative content analysis

Introduction

Performance assessment is a numerical scale that measures the quality of performed activities (1). The rising costs and vitality of the healthcare are some of the factors that encourage health organizations to develop performance assessment (2-5). An appropriate and applicable model of hospital performance assessment can potentially lead to accountability and improvement of quality of service and can increase patient satisfaction (6). If the

performance of hospitals is not assessed, there will certainly be no improvement (7). Therefore, performance assessment and performance improvement are the two sides of a coin; taking measures for the former leads to change in the latter (8). It is so essential to develop a performance assessment system in all organizations that lack of an assessment system in any dimension of an organization is one of the symptoms of organizational dysfunction (9,



10). Currently, performance assessment of hospitals in Iran is mainly focused on accreditation standards and other assessments are only carried out on certain cases in different parts of hospitals (11). Most traditional hospital performance assessment structures focus mainly on the adequacy of facilities, staff competencies, and the appropriateness of processes (13,14). These models either have a limited focus or measure some limited dimensions of performance (12,13). Some of them are more focused on structural elements or inputs, some on processes and others on outcomes or outputs, and few hospital performance assessment systems have incorporated a balanced assessment of inputs, processes, and outputs (15). Hence, it is of paramount importance to take into account all components assessing the comprehensive improvement of organizational performance (16,17). The results of the study by Nasiripour et al showed that there is no balanced perspective for assessing the performance of hospitals in Iran (18). In their qualitative study, Salehi and Payravi identified using inappropriate standards, inappropriate tools, and inappropriate methods as challenges to the hospital performance assessment system (19). Moreover, Ahmadi et al. indicated that the Ministry of Health's accreditation standards, despite being of a greater number compared with the joint commission standards, did not cover more than half of its standards. This reveals that current standards of hospital performance assessment are not sufficiently comprehensive and have inefficiencies and weaknesses (20). So far, the studies on hospital assessment have been carried out based on a quality model or only with regard to some dimensions and no comprehensive model has yet been utilized for this purpose. One way to discover the components and factors influencing performance assessment is to explain the experiences of experts as well as hospital accreditors and evaluators. Exploratory discovery is the first step in identifying the strengths and weaknesses of performance, which makes it possible to assess performance in health sector in a systematic way. Therefore, the present study was conducted to identify components and factors influencing the assessment of hospital performance.

Methods

This study employed a qualitative method based on content analysis. The study population consisted of informed experts such as health services management professors, university and hospital managers, national accreditors, and those in charge of quality improvement of hospitals in Mazandaran province in 2018. The purposive sampling method

was adopted to identify experts and then snowball sampling method was used. The number of samples (interviews) continued until data saturation was reached. In this study, saturation was achieved by interviewing 27 experts. In order to collect the viewpoints of these experts, individual semi-structured interviews were conducted.

The inclusion criteria of this study were senior, middle, and operations managers with at least ten years of management experience and three years of performance assessment experience. The participants were first explained the reason for doing the research and then the research questions were asked in a quiet place. The researchers used semi-structured interviews to collect data. The questions were as follows: "What factors did you take into consideration when assessing hospital performance? Give examples" and "Cite examples of the structural, process, outcome, control and monitoring components (as separate questions) that influence assessment performance". To clarify the concepts and gain a deeper understanding of the interview process, other follow-up and exploratory questions were asked based on the data provided by the participants. Sampling continued until data saturation i.e. the point when no new data were observed as the interview process continued. The researchers attempted to be as much of active listeners as possible. The average interview time was 55 minutes with a standard deviation of 10 minutes depending on the status of the participants. To analyze the data, immediately after each interview, summarizing started (summaries included the interviewer's interpretation of the most important ideas put forward in the interview); then, the tape-recorded interviews were transcribed. At the end, the transcripts were checked with the content of the tape recordings. For content analysis, Graneheim and Lundman's qualitative approach was used (19), which is elaborated in details as follows:

- The interviews were transcribed and read several times to gain a sense of the whole.
- The whole interview was considered as the unit of analysis. The unit of analysis refers to parts of the text that are to be analyzed and coded.
- Paragraphs, sentences, and words were considered as meaning units. A meaning unit is defined as the constellation of words and statements that relate to the same central meaning and contain aspects related to each other through their content and context.
- Based on their latent content, meaning units were abstracted and labelled with codes.

- The codes were compared based on their similarities and differences and were classified into more abstract categories with distinct labels.
- The categories were compared with each other, each was analyzed precisely and the latent content of the data was introduced as the theme of the study.

To ensure the trustworthiness and rigor of the study, Guba and Lincoln's proposed criteria were used (20). The researchers sought to add credibility to the research by prolonged engagement, sufficient interaction with participants, collection of valid information, and member check. To increase the dependability of the data, measures such as step-by-step replication and data collection and analysis were taken. Moreover, data were reviewed by the supervisor, consultant, and experts. In order to increase the confirmability of the data, the faculty members confirmed the data and their additional comments were taken into account. Data transferability was achieved by attempting to provide a detailed description of the research report in order to provide a basis for assessing the applicability of the results in other settings. Moreover, the quotations of the participants were kept as close to the original words as possible.

To observe the ethical considerations and rights of the participants, the researchers presented a letter of introduction from the vice chancellor for research and technology of the university and introduced themselves to the participants. Furthermore, after explaining the aims of the research and obtaining informed consent, the participants were ensured of the confidentiality and anonymity of the interviews. The researchers tried to remain close to the content of the interviews. At the beginning of

the study, demographic information of the participants was recorded and the conversations were cleared after completing the analysis, writing, and publishing the paper. The researchers emphasized the participants' right to leave the study at any time.

Results

In the qualitative part, the opinions of 27 participants aware of hospital performance assessment including 5 professors of health services management, 2 university managers, 5 hospital managers, 10 national accreditors, and 5 authorities in charge of improving the quality of hospitals familiar with the concepts of performance assessment were utilized. After the concepts were identified, 624 initial codes were extracted from the interviews and after several reviews, they were summarized and classified according to similarities and proportions. Then, by further reviewing and comparing the categories, their latent meanings were identified as the primary themes and these themes were labelled conceptually and abstractly according to their nature. Based on framework analysis of performance assessment, 5 main themes and 18 sub-themes were extracted (Table 1).

The experiences revealed that it is necessary to take into account all dimensions influencing performance assessment as well as a balanced measurement of inputs, processes, and outputs. The main themes influencing hospital performance assessment included structural, process, outcome, control, and contextual dimensions. Human resources, therapeutic processes, patient outcomes, internal and external monitoring, hospital culture, hospital status in service grading system, etc. were mentioned by evaluators as sub-themes influencing the performance assessment.

Table 1. Hospital performance assessment components

Main theme	Sub-theme
Structure	Human resources
	Financial resources
	Physical resources
	Information resources
	Equipment resources
Process	Therapeutic processes
	Paraclinical processes
	Prevention and health processes
	Management and leadership
Outcome	Patient outcomes
	Employee outcomes
	Community outcomes
	Hospital performance outcomes
Control	Internal monitoring
	External monitoring
Context	Hospital culture
	The status of hospital in service grading system
	Role of evaluators

Human Resources: From the participants' point of view, the most important structural factor was human resources or workforce. Doctors, nurses, midwives, paramedics, financial administrative personnel, security personnel, etc. form the main structural factors of the hospital. Participant 7 believed, "the hospital performed better when it had adequate human resources and the number of human resources in the health and support departments was proportionate".

Financial resources: Participants believed that financial issues affected the outcome. Providing patients and those accompanying patients with facilities or hotel repairs and implementation of programs require financial resources. Participant 4 stated, "a hospital with a great financial power, will be able to plan for improvement". Based on the experiences of participant 17, "Having good financial resources and making best use of them are like two blades of a scissors; one can't work efficiently without the other".

Physical Resources: Participants asserted the importance of having appropriate spaces, both clinical and nonclinical, as well as green spaces in hospitals. Participant 3 believed, "a hospital with an unusually large number of beds in rooms without required facilities may not score well in performance assessment".

Information resources: Participants acknowledged in their experiences and viewpoints that we are now in a transition phase of the hospital industry from hospitals with multiple networks to smart hospitals with a comprehensive health information management system on which depends providing optimal health services. Participant 11 stated that, "delivering healthcare services with all its complexity requires a proper information system that can access patient records in the shortest possible time".

Equipment Resources: According to the participants, the supply and maintenance of equipment is one of the most influential structural factors in hospital performance. Participant 2 said, "I saw in many assessments that the hospital had the necessary equipment but the equipment was not calibrated or had been broken down for a long time".

Therapeutic Processes: Most participants acknowledged that a large proportion of hospital activities and processes fall within the process components or standards and include more standards implementing which would bring about the desired results. Participant 5 stated, "Therapeutic processes include general clinical care, acute patient care, emergency

care, and surgical procedures". According to participant 6, "Important components of healthcare include general and special care in nursing and medicine fields such as observing guidelines, obtaining informed consent, visiting patient on time, providing medical consultations, and making proper decisions for patients".

Paraclinical Processes: Another important dimension of the hospital processes that was mentioned in the statements of all participants was the paraclinical processes, which include laboratory, blood bank, physiotherapy, radiography, and pharmacy. Participant 14 stated that, "to continue providing services, the hospital must offer paraclinical services or provide necessary conditions to refer to contracted centers within the specified frameworks".

Prevention and Health Processes: Most participants believed that an important point in assessing the performance of a hospital, which is easily noticed by the evaluators from the outset, is the assessment of environmental health activities that are highly visible. The activities include sanitation work and cleaning toilets, patients' rooms, wards, public spaces of the hospital and so on. Participant 24 stated, "Temporary collection and storage of waste within wards as well as safe disposal of infectious and sharp waste in the hospital are examples of waste assessment. It is also important to have a safe disposal device to dispose of chemical and pharmaceutical waste in accordance with sanitary standards".

Management and Leadership: Participants acknowledged that senior hospital managers play a key role in the proper implementation of hospital programs. Participant 2 stated, "In my hospital, the strategic plan is written solely for the sake of accreditation and the hospital management team has no involvement in its formulation". Participant 22 also asserted that, "successful hospitals are those that determine their performance indicators, measure them at intervals, and take corrective action if these indicators deviate from standards".

Patient Outcomes: All participants acknowledged patient outcomes as a key component of performance. Patient satisfaction was one of the indicators of performance assessment that all people considered important. According to participant 16, "what is important in assessing is not just measuring patient satisfaction; the goal is to benefit from these outcomes. So, the hospital needs to properly analyze".

Employee Outcomes: Participants believed that one of the most important outcome components

that should always be taken into account is employee satisfaction and loyalty, which results in improvements of indicators such as absenteeism, early retirement requests, employee occupational accidents, etc. According to participant 6, “the assessment of the dimensions of employee outcomes includes indicators and outcomes related to satisfaction, growth and learning, scientific activities, and participation of the personnel in hospital programs”.

Community Outcomes: In the point of view of some participants, in addition to patient and employee related outcomes, the hospital, as a social institution, is responsible for the community and its health. Participant 3 believed, “leading hospitals take into consideration issues such as the hospital’s responsibility to provide patients with knowledge and awareness and raise the level of community health”.

Hospital Performance Outcomes: Participants believed that it is important to pay due attention to performance indicators such as the number of clinic visits, number of surgeries, bed occupancy rate, average patient stay, etc. In this regard, participant 3 stated, “identifying performance indicators is the first step and then recording and enumerating the indicators in accordance with the identification as well as analyzing and taking measures to improve them are the next steps”.

Internal and External Monitoring: Most participants regarded control components as important in assessing the performance of a hospital. Participant 9 acknowledged that, “continuous monitoring of input variables, current processes, and output variables in all therapeutic stages can detect and correct deviations”. Participant 5 also believed, “external monitoring includes visiting out-of-hospital organizations. The results of such monitoring can be effective in promoting activities”.

Hospital Culture: Participants believed that the culture of a hospital influences the performance of that hospital. Participant 11 noted that, “hospital culture can include teamwork, productivity, and patient centeredness”.

The Status of Hospital in Service Grading System: Participants believed that ownership of a hospital has an impact on hospital performance. In this regard, participant 12 stated, “unfortunately, the contextual components are now neglected. Ownership and insurance system, type of activity, and size of hospital have an impact on hospital performance”.

Role of Evaluators: Participants believed that evaluators’ competence and knowledge are important and influence contextual components. In this regard, participant 2 stated, “evaluators are of different levels of knowledge and competence and this affects the assessment of centers”.

Discussion

The results of the present study identified five main themes including structure, process, outcome, control, and context in determining the components influencing performance assessment. In this study, the experiences of hospital performance assessment experts suggested that most performance assessment systems, especially in the hospital domain, have traditionally focused on adequacy of facilities. Some are more focused on structural elements or inputs, some on process measurement, and others on the outcomes. The review of previous studies showed that few hospital performance assessment systems have incorporated a balanced measurement of all of them (15). This can be attributed to that the performance assessment of a hospital is usually conducted using one performance assessment model hence only the dimensions of the utilized model are taken into account.

Based on the results of the present study, financial, physical, information, equipment and human resources were the sub-themes influencing the assessment of the structural dimension of hospital performance. The results of the study by Ogbonna and Harris showed the positive impact of organizational structure on performance (22). The most important challenges identified by Hakkak et al were those of physical, financial, and human resources (23). Mosadeghrad et al and Yousefinezhadi et al highlighted the scarcity of financial, physical, information, and human resources as the most important accreditation challenges (24,25). The challenges enumerated in these studies were consistent with those of the present study. Only the equipment resources were not mentioned which is not compatible with this study. One of the reasons for this difference is the limitation in generalization of the results of qualitative studies.

Based on the results of the present study, therapeutic, paraclinical, prevention and health, and management and leadership processes were important in assessing hospital processes. The results of the study by Taslimi and Zayandeh indicated that shortcomings in hospital performance are due to the processes rather than the capabilities

and knowledge of individuals (7). Moreover, Campbell showed that hospital performance outcomes are resulted from the processes (26), which is consistent with the results of the present study.

Based on the results of the present study, patient, employee, community, and hospital performance outcomes were the sub-themes of the outcome dimension of the assessment. The results of the research conducted by Salehi et al. demonstrated that to obtain structural, process, and output information, patient satisfaction measurement can be used (19). Abedi et al. also did a study and showed that the most important ethical issue in a hospital is patient rights (27). The results of the study by Yarmohammadian et al. revealed that employees are the most related ones to the assessment program and both influence and are influenced by the hospital performance assessment (28). Papanicolas et al. stated that one of the goals of performance assessment was to raise awareness in the society of the performance of organizations, but in practice, hospitals were less concerned with it (3). This is compatible with the results of the present study.

Based on the results of this study, internal monitoring and external monitoring were effective in hospital performance assessment. Berg et al. and Smith et al. showed that the best performance system is the one reflecting all issues related to a hospital (internal and external) on which there is monitoring (29,9). The results of the study conducted by Karimi et al. demonstrated that the current system does not apply a proper performance assessment (30), which is compatible with the results of the present study.

Based on the results of the present study, the hospital culture, the status of hospital in service grading system, and the role of the evaluators are effective in the contextual assessment provided by the hospital. Milner et al. and Greenfield et al. showed that hospital performance is directly related to organizational culture (31,32). Therefore, it is

necessary to design a hospital assessment model for each country based on the structure and culture of that country. Al-Assaf et al. concluded in their study that current standards of accreditation do not take into account the differences between organizations (33). Hakkak et al. and Mosadeghrad et al. believed weaknesses in the selection and training of evaluators, weaknesses in evaluators' knowledge and procedural uniformity, lack of mastery, and their different behaviors were the major challenges for performance assessment (23,24), which is consistent with the results of the present study. It is worth mentioning that since participants of this study were of a variety of occupational, age, and gender categories, it was attempted to minimize the diversity and generalizability limitations.

Conclusion

The results of this study showed that a comprehensive performance assessment system needs to measure all dimensions of hospital performance. Structural, process, outcome, control, and contextual dimensions can influence hospital performance assessment. Therefore, it is recommended that in assessing the performance of hospitals, in addition to traditional attention paid to physical, financial, equipment, and human resources and facilities, hospital processes in different fields, the outcomes of proper implementation of processes in all fields, internal monitoring, outcomes resulted from external and contextual monitoring, and visits to the hospital where the service is provided also be taken into consideration.

Acknowledgments

This article was conducted under code of ethics 1397.024. IR.IAU.CHALUS.REC. The authors would like to acknowledge managers of Mazandaran University of Medical Sciences and its affiliated hospitals for their cooperation.

Conflict of Interest

In the present study, the authors had no conflict of interest.

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