



ORIGINAL ARTICLE

**Strategies for Changing the Approach of Health Promoting Hospitals Based on the Importance-Performance Model: A Case Study in Yazd Hospitals in 2022**

Roohollah Askari<sup>1\*</sup>, Zahra Afkhami Ardakani<sup>1</sup>, Motahareh Sadat Pourrazavi<sup>1</sup>, Zeinab Alizadeh<sup>1</sup>

<sup>1</sup> Health Policy and Management Research Center, Department of Health Management and Economics, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

**ABSTRACT**

**Background:** Considering the key role of hospitals in improving the level of health, staff and community, implementing standards and promoting activities in hospitals is necessary to realize this important goal. Therefore, the study purpose to examine the strategies for changing the approach of health hospitals based on the importance-performance model.

**Methods:** The present descriptive and cross-sectional study was conducted in 2022 in selected hospitals of Yazd province, Iran. 56 hospital managers and officials were selected by census method. Data was collected using the World Health Organization (WHO) questionnaire regarding HPH (health promoting hospital) standards which contains 69 questions. The data was analysed using SPSS<sub>26</sub>, and mean score and standard deviation of importance and performance of HPH standards were calculated. The status of HPH standards in the studied hospitals was investigated using the importance-performance analysis matrix.

**Results:** The results showed that HPH standards had a moderate importance from the point of view of the studied people ( $3.89 \pm 0.76$ ) and in the examination of the performance of the studied hospitals regarding HPH standards, the researchers implemented the standards in a moderate level ( $3.28 \pm 0.51$ ). All the standards were identified as the points for keeping up the good work points based on importance-performance analysis matrix in the studied hospitals.

**Conclusion:** In order to fully achieve the standards and improve the condition of hospitals, changing the views of hospital managers and health service policy-makers towards the HPH plan, creating specific and consistent policies and guidelines in the field of training and interventions provided to patients and employees is necessary and effective.

**Keywords:** Health Promotion, Hospital, Standard, Importance-Performance Matrix

**Introduction**

The health system is facing many changes. The change in public expectations, the increasing number of chronic patients who need constant support, and the employees who are exposed to mental and emotional pressure on a daily basis, doubles the importance of health promotion (HP) program as a key service (1). The first international HP conference was held in Ottawa in 1986 and the first HP statement was presented as a new

approach to health sector (2). WHO has defined HP as the process of raising the level of people's awareness to know the factors that influence personal and social health, make correct decisions in choosing health behaviours, and as a result, adopt a healthy lifestyle (3). Five main strategies for promoting health are presented in Ottawa Declaration (2,4). In this regard, the concept of health promoting hospital (HPH) is the

Corresponding Author: Roohollah Askari  
Email: [r.asqari@gmail.com](mailto:r.asqari@gmail.com)  
Tel: +98 9125262737

Health Policy and Management Research Center,  
Department of Health Management and  
Economics, School of Public Health, Shahid  
Sadoughi University of Medical Sciences, Yazd, Iran

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manifestation of the fifth priority of this charter, i.e. revision of service provision (5). Preventive and promotion services are available in hospitals (6). But hospitals are still involved in their old role in the field of diagnosis and treatment. And they do not have a specific framework for providing health promotion services. (1,7). Getting out of this situation requires a new way of thinking in the field of health, so that the maximum use of available facilities can be made to ensure and improve the health of society. It will be possible to achieve this by establishing HPHs (8). HPH is a developed model of modern hospitals in which hospitals are revised and changed to provide health and treatment services at the three levels of prevention, treatment and rehabilitation to patients, employees and the public (9). The four focused and emphasized areas of HPHs include: improving the health of patients, improving the health of employees, changing the structure to a health promoting structure, improving the health of the community by improving the health of the hospital as a part of society (10). In the implementation of HP, it is recommended to carry out a series of actions such as HP projects, membership in the global HP network and developing an evaluation index for HP programs (9). HPH standards have been compiled in five areas of management policy, patient assessment, patient information and interventions, creation of a healthy workplace, and continuity and cooperation (11). The purpose of establishing the HPH standards is to familiarize medical institutions with the program and integrate HP services, education, disease prevention and rehabilitation services (2). Among the results of the implementation of these standards, it is possible to point out the greater efficiency of hospitals, the improvement of patients' satisfaction levels and their quality of life, the reduction of treatment complications, the prevention of unnecessary hospitalizations, and the redefinition of the role of hospitals in the field of competition. (12). The quality of work and innovation in doing it can be improved through HP services (2). In the study by Javan Biparva et al. (13) which was conducted in three selected military hospitals in Tehran based on

the nursing staff perspectives, hospitals had proper planning, and were prepared to establish the HPH standards. Moreover, it is necessary to pay attention to creating a healthy workplace, patient assessment and continuity and cooperation to facilitate implementing the standards (13). In the study by Afshari et al. (14), conducted on nine educational and therapeutic hospitals in Isfahan city, self-assessment teams evaluated the condition of their hospital as moderate in most of the items, except for patient information and interventions standard (14). So far, several studies had been conducted on the evaluation of hospitals in terms of HPHs in Iran, which showed that HP program in hospitals was not a priority and was only considered as a part of hospital accreditation program (15). Considering the key role of hospitals in improving the health of patients, staff and society, it is necessary to implement standards and HP services to realize this important goal. The HPH project started in 2016 in Yazd province, Iran. According to their conditions and available facilities, hospitals provide some of the general and specific HP interventions. The present study addresses the strategies for changing the approach of health hospitals based on the importance-performance model in Yazd University of Medical Sciences, Iran, in 2022.

## **Materials and Methods**

### ***Study Design and Settings***

This was a descriptive - cross-sectional study conducted on the selected hospitals (three government hospitals and one charity hospital) of Yazd province, Iran in 2022. The hospitals were selected based on easy access and implementation of the HPH plan.

### ***Study Participants***

In this study, 56 hospital managers and officials were selected by census method. The studied subjects were the members of the hospital management team and the officials of the units who had more participation and knowledge regarding quality management and HP programs of the hospital. These people included: hospital CEO,

hospital manager, quality improvement officer, health promotion officer, patient education expert, matron, educational supervisor, patient safety expert, supervisors, occupational health expert, assistant and psychologist. Out of 56 distributed questionnaires, 47 questionnaires were completed (response rate: 84%).

### **Data Collection**

The data was collected using WHO questionnaire regarding HPH standards. The Ministry of Health and Medical Education has compiled and approved of its validity and reliability. This tool has been used in various studies.

This questionnaire investigates the four aspects of patient, staff, the organization and the public by measuring the importance and performance of HPH standards with 69 questions, including management policy (18 questions), patient assessment (8 questions), patient information and interventions (7 questions), promoting a healthy workplace (17 questions) and continuity and cooperation (19 questions). Questions were scored based on a 5-point Likert scale regarding the importance dimension (1 = very low, 2 = low, 3 = moderate, 4 = high, 5 = very high) and for the performance dimension (1 = very inappropriate, 2 = inappropriate, 3 = moderate, 4 = appropriate, 5 = very appropriate). This questionnaire is standard, and its content validity has also been confirmed (16).

### **Data Analysis**

Data was analysed using SPSS<sub>26</sub>, and the mean score and standard deviation of importance and

performance of HPH standards were calculated. HPH standards were evaluated based on the mean score obtained regarding the importance dimension in 3 levels (mean score below 3 = low level, the score of 3 to 4 = moderate level, and above 4 = high level) and regarding the performance dimension in 4 levels (mean score of below 3 = poor status, score of 3 to 4 = moderate status and above 4 = acceptable status). Finally, the importance-performance analysis matrix was plotted based on the mean importance and performance scores of HPH standards for each hospital. This was to investigate the status of HPH standards in the studied hospitals. Importance-performance analysis matrix was a two-dimensional matrix, in which performance was located on X-axis and importance on the Y-axis. When the mean score point of importance and the mean score point of performance met, four connection areas were created. The first area (keeping up the good work) was where the importance and performance were high. The second area (critical area) was where there was a high level of importance and low performance. The third area (low priority) was where the importance and performance was low. The fourth area (resource waste) was where there was low importance and high performance (17).

### **Results**

The status of the selected hospitals in terms of ownership, number of active beds, number of personnel, bed occupancy rate and year of operation are presented in Table 1.

**Table 1.** The status of selected hospitals in terms of ownership, number of active beds, number of staff, bed occupancy rate, and year of operation

Hospital	Ownership	Number of active beds	Number of staff	Established year	Bed occupancy rate (%)
A	Government	179	971	1977	70
B	Government	192	633	2001	69
C	Government	212	600	1953	67
D	Non-government	176	602	1981	68

According to Table 1, government hospital A, with 179 active beds and 971 staff, had a bed occupancy rate of %70; government hospital B, with 192 active beds and 633 staff, had a bed occupancy rate of %69; and government hospital C, with 212 active beds and 600 staff had a bed occupancy rate of %67. Non-

government hospital D, with 176 active beds and 602 staff, had a bed occupancy rate of %68. The demographic characteristics of the studied subjects in terms of gender, marital status, educational level, age, work experience, service unit, and employment status are presented in Table 2.

**Table 2.** The demographic characteristics of the participants

Demographic characteristics		Frequency	Percentage
Gender	Male	9	19.10
	Female	38	80.90
Marital status	Single	3	6.40
	Married	44	93.60
Education level	Bachelor	31	66.00
	Master of Science	14	29.80
	Ph.D.	2	4.20
Service unit	Administrative	4	8.50
	Official	14	29.80
	Medical	29	61.70
Age	Mean score ± standard deviation	40.60±6.30	
	Minimum	27	
	Maximum	58	
Work experience	Mean score ± standard deviation	14.15±7.34	
	Minimum	2	
	Maximum	30	

According to Table 2, 80.90 of the participants were female and 93.60 were married. In terms of the education level, most of the respondents (31

ones) had a bachelor's degree. The average age and work experience of the respondents were 40.60±6.30 and 14.15±7.34 years, respectively. In

terms of service unit, 61.70 of the respondents were employed in medical units, and only 8.50 and 29.80 of them were employed in administrative and official units. The results demonstrated that these standards had moderate importance ( $3.89\pm0.76$ ) according to the studied subjects.

Among the standards, the highest and the lowest mean scores were related to promoting a healthy workplace standard ( $3.96\pm0.42$ ) and the management policy standard ( $3.79\pm0.74$ ). The mean score of the importance of HPH standards in the studied hospitals are presented in Table 3.

**Table 3.** Importance scores (mean  $\pm$  SD) of HPH standards in the studied hospitals

HPH standard	Hospital A	Hospital B	Hospital C	Hospital D	Total hospitals
Management policy	3.95 $\pm$ 0.92	3.93 $\pm$ 0.90	4.26 $\pm$ 0.99	3.05 $\pm$ 0.95	3.79 $\pm$ 0.74
Patient assessment	4.07 $\pm$ 0.66	3.86 $\pm$ 0.99	4.49 $\pm$ 0.74	3.25 $\pm$ 1.06	3.91 $\pm$ 0.18
Patient information and intervention	4.11 $\pm$ 0.75	4.00 $\pm$ 0.98	4.52 $\pm$ 0.73	3.23 $\pm$ 1.16	3.96 $\pm$ 0.87
Promoting a healthy workplace	4.06 $\pm$ 0.88	3.91 $\pm$ 0.95	4.47 $\pm$ 0.79	3.43 $\pm$ 1.00	3.96 $\pm$ 0.42
Continuity and cooperation	3.91 $\pm$ 0.98	3.90 $\pm$ 0.97	4.33 $\pm$ 0.84	3.24 $\pm$ 1.01	3.84 $\pm$ 0.65
Total HPH standards	4.02 $\pm$ 0.84	3.92 $\pm$ 0.92	4.41 $\pm$ 0.82	3.24 $\pm$ 1.04	3.89 $\pm$ 0.76

According to Table 3, in hospital A, the management policy standard and continuity and cooperation standard had a low level of importance, and the importance level of other standards was moderate. In hospital B, the importance of patient information and intervention standard was moderate and the other standards showed a low level of importance. In hospital C, all the five areas were considered very important. In hospital D, the importance of all the five standards was low. The

results showed that HPH standards were at a moderate level in these hospitals ( $3.89\pm0.76$ ). In addition, the patient information and intervention standard received the highest mean score ( $3.96\pm0.87$ ), and the management policy standard received the lowest means score ( $3.79\pm0.74$ ). The mean score of the performance of the studied hospitals in achieving HPH standards are presented in Table 4.

**Table 4.** Performance scores (mean  $\pm$  SD) of HPH standards in the studied hospitals

HPH standard	Hospital A	Hospital B	Hospital C	Hospital D	Total hospitals
Management policy	3.53 $\pm$ 0.88	3.21 $\pm$ 0.96	3.33 $\pm$ 1.03	2.55 $\pm$ 0.96	3.15 $\pm$ 0.32
Patient assessment	3.48 $\pm$ 1.14	3.10 $\pm$ 0.88	3.75 $\pm$ 0.91	2.86 $\pm$ 1.11	3.29 $\pm$ 0.45
Patient information and intervention	3.50 $\pm$ 1.05	3.32 $\pm$ 1.02	3.94 $\pm$ 0.75	2.86 $\pm$ 1.20	3.40 $\pm$ 0.76
Promoting a healthy workplace	3.43 $\pm$ 1.11	3.19 $\pm$ 1.06	3.45 $\pm$ 0.76	2.96 $\pm$ 1.08	3.25 $\pm$ 0.56
Continuity and cooperation	3.43 $\pm$ 1.09	3.22 $\pm$ 0.96	3.76 $\pm$ 0.88	2.79 $\pm$ 1.10	3.30 $\pm$ 0.97
Total HPH standards	3.47 $\pm$ 1.05	3.20 $\pm$ 0.97	3.64 $\pm$ 0.87	2.80 $\pm$ 1.09	3.28 $\pm$ 0.51

According to Table 4, HPH standards in hospitals A, B and C, respectively were obtained as  $3.47\pm1.05$ ,  $3.20\pm0.97$  and  $3.64\pm0.87$ , which indicated the moderate performance of these hospitals and the poor performance of hospital D

according to the mean score  $2.80\pm1.09$ .

According to Table 3 and 4, the importance-performance analysis matrix of the studied hospitals is presented in Figure 1.

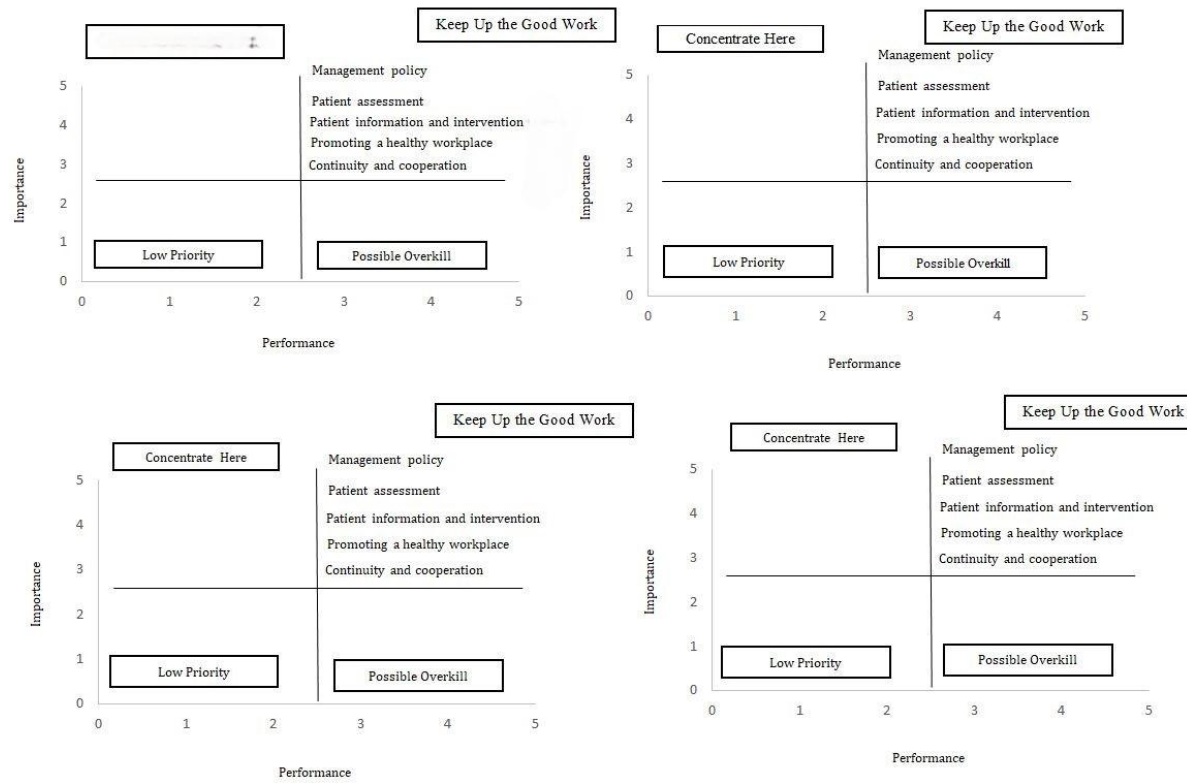


Figure 1. Importance-performance analysis matrix of the studied hospitals

Figure 1 showed that the studied hospitals did not have any critical and resource waste points. All the standards were identified as the points for keeping up the good work based on importance-performance analysis matrix in the studied hospitals.

### Discussion

The present study was conducted with the aim of investigating the status of selected government and charity hospitals in achieving HPHs standards in Yazd University of Medical Sciences, Iran. The results showed that the importance of HPH standards in two government hospitals was high, and in one of the hospitals and in the charity hospital, it was moderate. Moreover, in all HPH standards, the importance mean score of government hospitals was higher than the charity hospital, but in the study by Sadeghi Arani et al. (17), the importance mean score of non-government hospitals was higher than the government hospital, so it was not in line with the present study (17). In this research, HPH standards in three government hospitals were at a moderate level, and in the charity hospital, the standards were at a weak level.

Regarding all HPH standards, the performance mean score of government hospitals was higher than the charity hospital. However, in the studies by Sadeghi Arani et al. (16) and Pezeshki et al. (18), the performance mean score of non-government hospitals was higher than the government hospitals. In Yaghoubi and Javadi's study (19), in the standards, except the second standard, the mean performance score of non-government hospitals was higher than the government hospitals. In contrast, Sadeghi Arani et al. (16) and Pezeshki et al.'s studies (18) were not consistent with the present study. The standards, except the second one, in Yaghoubi and Javadi's study (19), was not consistent with the present study (18,16,19). In general, the performance of government hospitals in terms of HPH standards was higher than the charity hospital, while in the study by Sadeghi Arani et al. (16), Pezeshki et al.

(18), Yaghoubi and Javadi. (19), HPH standards were implemented more in non-government hospitals than in the government hospitals, and this paper was not in line with these studies (18,16,19).

Among HPH standards, the patient information and interventions standard received the highest mean score and the management policy standard received the lowest mean score.

In the studies of Yousefi et al. (20), Taghdisi et al. (21), Pezeshki et al. (18), Yaghoubi and Javadi (19), and Afshari et al. (15), the patient information and interventions standard had the highest mean performance score (15,18-21)

In the study by Yousefi et al. (20), health information about common diseases was recorded in patient files and patients and their families were informed about the method of treatment in hospitals (20). The results of the present study showed that the information related to high-risk diseases was recorded in patient files and therapeutic interventions were performed based on the type of disease.

In the study by Taghdisi et al. (21), patients were informed about their health status and treatment plans (21); in the study by Pezeshki et al. (18), appropriate information about the disease was provided to the patients in hospitals (18); in Afshari et al.'s study (15) a great amount of education and information was provided for patients and families, and the patients received information about treatment, care, and factors affecting their health (15). In the present study, hospitals were in the same situation.

In the study by Yaghoubi and Javadi (19), hospitals had a strong information system regarding patients and their families, and the patients were given clear, understandable and appropriate information about the status of treatment, care, and the factors affecting their health (19). In this study, appropriate information related to the disease and post-treatment care was provided to the patients in the hospitals.

In terms of strength (patient information and

interventions standard), the studies were consistent with the present research.

In the study by Yousefi et al. (20), and Taghdisi et al. (21), the management policy standard showed the lowest performance mean score (20,21). In the study by Yousefi et al. (20), a specific budget was not allocated for HP programs in the area of patients, employees, society and environment (20). In this study, no specific budget was allocated for the HP program in the studied hospitals. In the study by Taghdisi et al. (21), one of the reasons was the lack of funds and facilities for HP (21). In this study, hospitals had the same situation. In terms of weakness (management policy standard), these studies were consistent with the present study.

In Pezeshki et al.'s study (18), promoting a healthy workplace standard obtained the lowest score. In the study by Yaghoubi and Javadi (19), the lowest score was related to the patient assessment standard. In Afshari et al.'s research (15), the continuity and cooperation standard had the lowest performance mean score. In terms of weakness (management policy standard), these studies were not consistent with the present study (15,18,19)

Charoghchian Khorasani et al. (22) investigated the status of one of the specialized hospitals affiliated with Mashhad University of Medical Sciences based on the indicators of HPHs by the WHO, where the performance of the continuity and cooperation standard was better and the management policy standard was at a poor level. The studied hospital was not part of the network of HPHs. In the current study, hospitals were not members of the international network of HPHs. In terms of weakness (management policy standard), this research was consistent with the present study (22).

Al Aufa. (23) investigated the management process of HPH in a private hospital in Lamongan, East Java, and the results showed that most of the employees did not know that they were part of the HPH unit. Moreover, the main problem in the management process of HPHs was lack of

commitment to carry out the planned activities due to the low level of coordination from HP team members. In the current study, lack of coordination between the members of HP team in the studied hospitals caused some of the planned activities to not be fully implemented or to be implemented in an unorganized manner, which reduced the importance and performance of HPH standards. The lower level of importance and performance regarding HPH standards in the charity hospital compared to government hospitals, and generally, the lower mean score of the management policy standard among HPH standards can be caused by incomplete or unorganized implementation of the program. This study was consistent with the current study (23).

In the study by Sadeghi Arani et al. (17) found that, according to the importance-performance analysis matrix, the standards for promoting a healthy workplace, continuity and cooperation, and patient assessment were identified as critical points, and the management policy standard was one of the resource waste points of the studied hospitals. In the present study, among HPH standards, government hospitals demonstrated higher performance mean scores. All the standards were identified as the points of keeping up the good work in the studied hospitals. The present study was not in line with this research (17).

The limitations of the present study included the lack of research concerning the importance of HPH standards for review and comparison with the results obtained, lack of participation of private hospitals in the study, lack of familiarity of some hospital officials and employees with HPH standards and activities, and their lack of detailed cooperation due to busy work.

### Conclusion

The moderate performance of hospitals in achieving HPH standards indicates the unorganized and scattered implementation of HP programs, and hospitals are far from fully realizing these standards. In order to fully achieve the standards and improve the condition of hospitals,

changing the views of hospital managers and health service policy-makers towards the HPH plan, creating specific and consistent policies and guidelines regarding training and interventions provided to patients and employees, setting up and managing HP clinics, and interaction and cooperation with health organizations and related ones are necessary and effective. Hospitals should consider providing a healthy workplace for employees in terms of safety requirements and comfort facilities in order to maintain and improve the health of their human resources as a valuable asset of society. Furthermore, a part of health system budget should be allocated to HP activities in hospitals. All the standards were identified as the points regarding keeping up the good work based on importance-performance analysis matrix in the studied hospitals.

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#### Authors' Contributions

Askari R designed research; Afkhami Z and Pourrazavi M conducted the study; Askari R and Afkhami Z analysed data; and all the authors wrote the paper. Askari R had the primary responsibility for the final content. All the authors read and approved of the final manuscript.

#### Ethical Considerations

The information obtained was reported as completely real and without any interference, and the hospitals participated voluntarily in the research. In this article, the names of hospitals were marked with letters A, B, C, D due to confidentiality principles.

#### Ethical Approval

This article was the result of a research project approved by the ethics committee of Yazd University of Medical Sciences, Yazd, with the code IR.SSU.REC.2022.059.

#### Conflict of Interests

The authors declared no conflict of interests.

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