

## Management Pattern of Health Benefactors' Collaboration in Medical Sciences Universities of Iran

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### ARTICLE INFO

#### Original Article

Received: 12Mar 2019

Accepted: 18July 2019



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### ABSTRACT

**Introduction:** Recently, the health care sector has been moved towards establishing non-governmental organizations (NGOs); due to the fact that collaborative approaches are happening more in these organizations and they provide better services. This collaboration has been conducted in a variety of ways, requiring the investigation of a study with the aim of providing a management pattern of health benefactors' collaboration in medical sciences Universities of Iran.

**Methods:** This is a qualitative and Delphi study conducted in 2017. The study population was 13 universities out of 57 universities of medical sciences in Iran to which the questionnaire was sent. To obtain experts' opinion and consensus, using Delphi technique, a questionnaire with initial classifications and subclasses was electronically sent to the social deputy of the universities of medical sciences for three times. In order to ensure the consistency of the experts, their responses were analyzed by Kendall correlation analysis in 5 phases. SPSS and Excel software were used to analyze the data.

**Results:** The findings of this study showed that the factors affecting the participation of the benefactors in the medical sciences Universities of Iran include: holding meetings in the beginning of the academic year of the universities, holding meetings in special timeframes, and using benefactors' financial resources in the research field. the Kendall coefficient was 61% in the first stage. By improving the questionnaire in the second stage, the Kendall coefficient reached 86%, and in the third stage of validation, it increased to 91%.

**Conclusion:** The management pattern of collaboration can be used to improve the management of health benefactors' collaboration in Iran Universities of Medical Sciences, and the highest priority to improve its performance depends on the organization and guidance among its members.

**Keywords:** Collaboration, Health Benefactors, Management Pattern, Organization

#### How to cite this paper:

Pakdaman M, Sari M, Montazeralfaraj R, Fallahzadeh H. Management Pattern of Health Benefactors' Collaboration in Medical Sciences Universities of Iran. J Community Health Research. 2019; 8(3): 164-176.

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## Introduction

Health is considered as a fundamental concept in human life and it has always been emphasized on achieving, preserving, and promoting it (1). The most comprehensive definition of this concept among scientific literature of health is related to the World Health Organization (WHO) (2). According to this definition, health is a state of complete physical, mental, and social well-being, not just the absence of disease and organ failure, which leads to a greater collaboration (3). The health care system is to organize people, institutions, and resources to provide health care services to meet the health needs of target populations. According to the WHO, the health system goals consist of the good health for citizens, meeting people's needs and justly methods of dedicating resources among many people (4). All health systems, on the one hand, face the challenge of scarcity of resources and do not have the capacity to provide all the services needed by all people. On the other hand, they seek to increase equity in access to health care and services. Popular religious activities and assistance to the needy people have been commonplace among nations and people from centuries ago, and what is known as the NGO is due to institutionalized activities that have intensified since the second half of the 20th century. The most prominent feature of these NGOs is that they are voluntary and spontaneous (2) which are influenced by environmental and social conditions (5). In recent years, the health care sector has been one of the sectors where the NGOs have been involved. Hospitals and charity clinics are working with the efforts of benefactors to provide services. These charities can be seen as the link among the old-fashioned public organizations. Charity hospitals are one of the oldest centers providing services to various people (6). These organizations work with a collaborative approach (7). Given that the enjoyment of all people in the society from the highest health standards is known as one of the fundamental rights of humans. Health care providers are always seeking a solution for fair allocation of health services to people (8). This

issue can be explored through collaboration, the basis of which is in NGOs (9). In many countries, the NGOs are viewed as a source of civil society. Other policymakers believe that by improving these types of organizations, the excessive market-orientation and state-orientation that is coming from the current crisis in the world will be reduced and a kind of balance will be created among different sectors of society.

In the Islamic Republic of Iran, reducing the payment of health expenses by people has been emphasized in the fourth and fifth development plans and in the health system development plan (10). This issue in NGOs is directly related to the characteristics of their members (11). Therefore, to achieve this goal, getting advantage of the potential of charities and benefactors to cover part of health system expenses is important (12). The necessity of benefiting from charity capacities in the health system becomes more evident when the long historical background of charity culture is considered in the cultural and religious belief of the people in Iran. Charities in Iran are new organizations; therefore, they suffer from the lack of credit and financial problems. Although the obstacles to the activities of these organizations have always been apparent, the most important issues seem to be germane to the problems within organizations themselves (13). The community of health benefactors has branches in the cities and province centers, which has already had more than 150 branches in the country to operate its own targets in Iran. The scope of charity activities is not limited to healthcare services. Although the treatment area is one of the most important areas for the provision of health care services, the benefactors can help in prevention, education, research, and health policies that directly and indirectly reduce the prevalence of diseases in the community and increase people's health level.

Having a charity organization in various health areas, including prevention, health, and treatment is of utmost importance. One of the most important goals of health care is to help the Ministry of Health to reduce health deficits and provide

financial support for the poor in the health sector. Moreover, provision of medical equipment, manpower, and hospital setup are the other goals of community of health benefactors. The high level of health benefactors' collaboration with medical sciences universities in Iran is one of the most popular characteristics of NGOs. Providing a management pattern for explaining health benefactors' collaboration as an important helper in health sector is necessary for better and more usage of the potential of benefactors and charities to provide health care services, as well as providing some health care expenses. Moreover, a legal framework should be designed to facilitate, encourage, and persuade benefactors' collaboration, and lead their help to the right direction. Therefore, it is necessary to properly organize NGOs by a coherent planning and to prevent spoiling the resources. The present study aimed at determining the pattern of health benefactors' collaboration among universities of medical sciences in Iran.

### Methods

The present study is a qualitative research conducted based on Delphi technique. A qualitative study can create a new insight and is the most appropriate approach for discovering the essence, emotions, characteristics, values, meanings, insights, and individuals' or a certain group's ways of life. Yin states that when the

purpose of a study, in addition to describing the behavior, is to discover and explain its meaning; when attitudes and belief of the target community, in relation to the subject under study, are not specified or when the information is not sufficient or proper terms are not available for communicating with the contacts, using qualitative methods is strongly recommended. Qualitative studies allow a thorough examination of the underlying behaviors, attitudes, and perceptions determining the individuals' health status. These studies are particularly effective in answering questions containing human interpretations and attitudes, and are considered as the best way to describe the life experiences and basic social processes in them. These methods are conducted with the belief in the uniqueness of each particular situation, and the findings are the result of the interaction between the researcher and the participants. The participants were among the experts in the area of the health benefactors (the ex-deputy of social department of health ministry) and health benefactor's communities of provinces.

The study population was all the universities of medical sciences in Iran. Out of all universities just 13 samples responded to the questionnaires that were divided into type 1, type 2, and type 3 universities. The classification of the universities, based on their type, is as follows.

**Table 1.** Classification of samples based on the universities and demographic variable

Type	University	Degree of education	Gender	Position
Type 1	Markazi y Hamedan Semnan Orumiye Khuzestan	MS PHD BS BS MS	F * M ** F M M	Director and Expert of Health Partnerships and Benefits of Social Assistant University
				Expert Contributors and Health Benefits Social Assistant University
				Member of the Hamedan Health Community
				Director and Expert of Contributions and Health Benefits Social Assistant University
				Director and Expert of Contributions and Health Benefits Social Assistant University
				Director and Expert of Contributions and Health Benefits Social Assistant University
				Director and Expert of Contributions and Health Benefits Social Assistant University
Type 2	Ilam Sirjan Lorestan Hormozgan	BS PHD PHD BS	F M M F	Director and Expert of Contributions and Health Benefits Social Assistant University
				Social Assistant University
				Director and Expert of Contributions and Health Benefits Social Assistant University
				Director and Expert of Contributions and Health Benefits Social Assistant University
				Director and Expert of Contributions and Health Benefits Social Assistant University
Type 3	Khalkhal Larestan Khomeyn Sabzevar	MS BS PHD MS	M F M F	Social Assistant university
				Director and Expert of Contributions and Health Benefits Social Assistant University
				Social Assistant University
				Director and Expert of Contributions and Health Benefits Social Assistant University
				Director and Expert of Contributions and Health Benefits Social Assistant University

F= female  
\*\*M=Male

After investigating the documents of the benefactors' collaboration at the centers and institutes of the universities of medical sciences using review method, an essay type questionnaire was designed. The questionnaires were completed by the officials of the social deputy of medical sciences universities, then the collected data were coded, and the classes and subclasses were determined. The proposed management pattern for health benefactors' collaboration was designed. The study results by Delphi method were sent to the universities of medical sciences 3 times for validation. After receiving the experts' and authorities' opinions in the medical sciences universities, the final pattern of health benefactors' collaboration was presented.

The present study is done based on charity management in 5 phases presented as follows:

1. Investigating documents

Investigating documents of management patterns

Investigating documents of partnership management

Investigating documents of charity institutions

2. Determining the type and definition of components

Coding classes and subclasses used in the research

3. Checklist and collecting data

Selecting and deleting the steps of the components

Focusing on related subjects

Collecting data

Advantages and the questionnaire

4. Delphi technique

First time of reliability

Second time of reliability

Third time of reliability

5. Proposed pattern

The effect of using proposed pattern

**Results**

The Delphi technique was used to obtain experts' opinions and consensus. Classes and subclasses were electronically sent to the social deputy of the universities of medical sciences for

three times. Finally, 10 people participated in the Delphi implementation process. The scoring scale at this stage was from 1 to 10 (score 1 = completely disagree and score 10 = completely agree). For consensus or non-consensus, the mean score for classes and subclasses was used.

**Table 2.** Classes and Subclasses of Health Benefactors' Collaboration Pattern

Classes	Subclasses
Planning	Autumn timeframe
	Holding meetings
	Collaboration with charities within a specific timeframe
	Using benefactors' financial resources
Organizing	Using financial resources donation in the field of research
	Active beds
	Charity hospitals
	Charity organizations in cities
Guidance	New approach to contact with the university
	Treatment and research priorities
Control and Supervision	Establishing inter-organizational communication
	Office and treatment equipment
	Participation in policy making

In order to evaluate the responses, the checklist was sent to the experts for three times, the results of which are as follows.

**First round of validation**

In order to ensure the consistency of the experts, their responses were analyzed by Kendall correlation; therefore, it showed that 61% of the experts agree with each other (Table 3). This result indicates a good correlation among the experts' responses and therefore the results are claimed to be acceptable and can be relied upon ( $r=0.869$ ). After completing the first stage, the indexes which are addressed in the hypotheses section were fixed or the keywords were extracted from the viewpoints of 10 experts. Given that the hypotheses were extracted in accordance with the extracted keywords from reviewing the resources and the researchers' purpose, it was necessary to confirm the experts' opinion that this goal was

successfully achieved at this stage. At the next stage, adjusting and modifying the questionnaire were carried out and analyzed as the effective key words on the provision of the health benefactors' collaboration management pattern in the universities.

**Second round of validation**

At the second round, the questionnaire was sent to the experts in an analytical framework and presented as weighting to extract experts' opinions. This weighting was based on a score of 1 to 10 according to the intensity range (the highest score= 10 and the lowest score= 1). This extension of the amount of influence was presented to the experts in order to improve the effectiveness of the indexes on the classes, as well as the freedom in scoring. This kind of scoring also has a much higher level of confidence in the case of high correlation and makes the results of the Delphi method reliable.

**Table 3.** Kendall Coefficient in the Second Round for Classes and Subclasses of Benefactors' Collaboration

Calculation of Kendall coefficient	
Number of respondents	10
coefficient	0.869
Sig.(Two tailed)	0.001

As shown above, the Kendall correlation coefficient is 0.869, which represents 86% of the coordination among viewpoints. Therefore, the coordination in the responses was very high and made it possible to continue to the next stage and distribute the questionnaires in the third round.

The results of the second round questionnaire were presented and evaluated separately from all questions of the questionnaire. The results showed a relatively acceptable percentage of the coordination among the experts. As Table 3 shows, the mean is almost close to mode, which reflects the coordination of the experts ( $p=0.001$ ). Furthermore, small standard deviation shows this issue and high correlation in the experts' consensus.

### Third round of validation

**Table 4.** Calculation of the Kendall Coefficient in the Third Round for the Classes and Subclasses of Benefactors' Collaboration

Number of respondents	10
coefficient (W)	0.917
Sig.(Two tailed)	0.001

As shown in Table 4, the Kendall correlation coefficient is 0.917, which indicates a high level of credit for classes and subclasses. It showed that the collaborative pattern based on the third round of Delphi validation has high correlation and reliability.

Considering the evaluation and emphasis of various components and indicators and their differentiation using the Delphi method, and factors affecting the benefactors' collaboration in the universities of medical sciences of the country, the results demonstrated that indicators can be summarized in one component, such as holding meetings in the initial period of the academic year of universities due to the development of guidance and planning by the end of the year. It is due to the

In the third round, each member of the expert group received a questionnaire again in which the points of the previous stage were repeated; however, the questions were embedded in a different form. At this stage, they were asked to revise their judgment on the issues. This stage gave the group members an opportunity to clearly explain their information and judgment on the discussed topics. In order to achieve a better result comparing to the last results, a slight increase in consensus was expected. The number of repetitions and stages in the Delphi method can be continued from three to five steps, depending on the degree and amount of members' agreement. In this study, conducting three stages considering the consensus of the opinions was done; because the very high Kendall coefficient shows a high agreement among the experts.

fact that a clear program is initially created in an academic year perspective of the university and benefactors, after which one could take additional and developing measures, including characterizing the level of benefactors' collaboration, assigning benefactors' help to areas and decision making about university problems in different areas and planning to eliminate them.

### Holding meetings

Holding meetings is one of the most important parts of the attendance and collaboration of the benefactors in the universities. They should have a high level of performance and credibility and be organized; moreover, the benefactors and goals

are clearly identified and the operational efficiency of the meetings is extracted.

### **Specific timeframe**

Giving the experts of this study a program for holding meetings in a specific timeframe could be more appropriate compared to holding meetings based on necessity. A specific timeframe could accurately determine the scheduling of meetings and prevent inconsistencies and interferences.

The lack of benefactors and university authorities' attendance, even small, can have a significant impact on the outcome of the meetings. The specific timeframe makes the planning of the goals and methods more precisely organized prior to holding meetings, so that meetings will be held easier and the desired and aggregated results will be achieved in a shorter time.

Depending on the results of the Delphi method, cooperation with charity organizations has led to a high impact on the planning of benefactors' collaboration in medical sciences universities. Cooperation with charity organizations not only can create a better and more constructive interaction between the university and charity organizations, but also can enhance benefactors' morale and positive views in order to clearly illustrate charities' own goals and viewpoints.

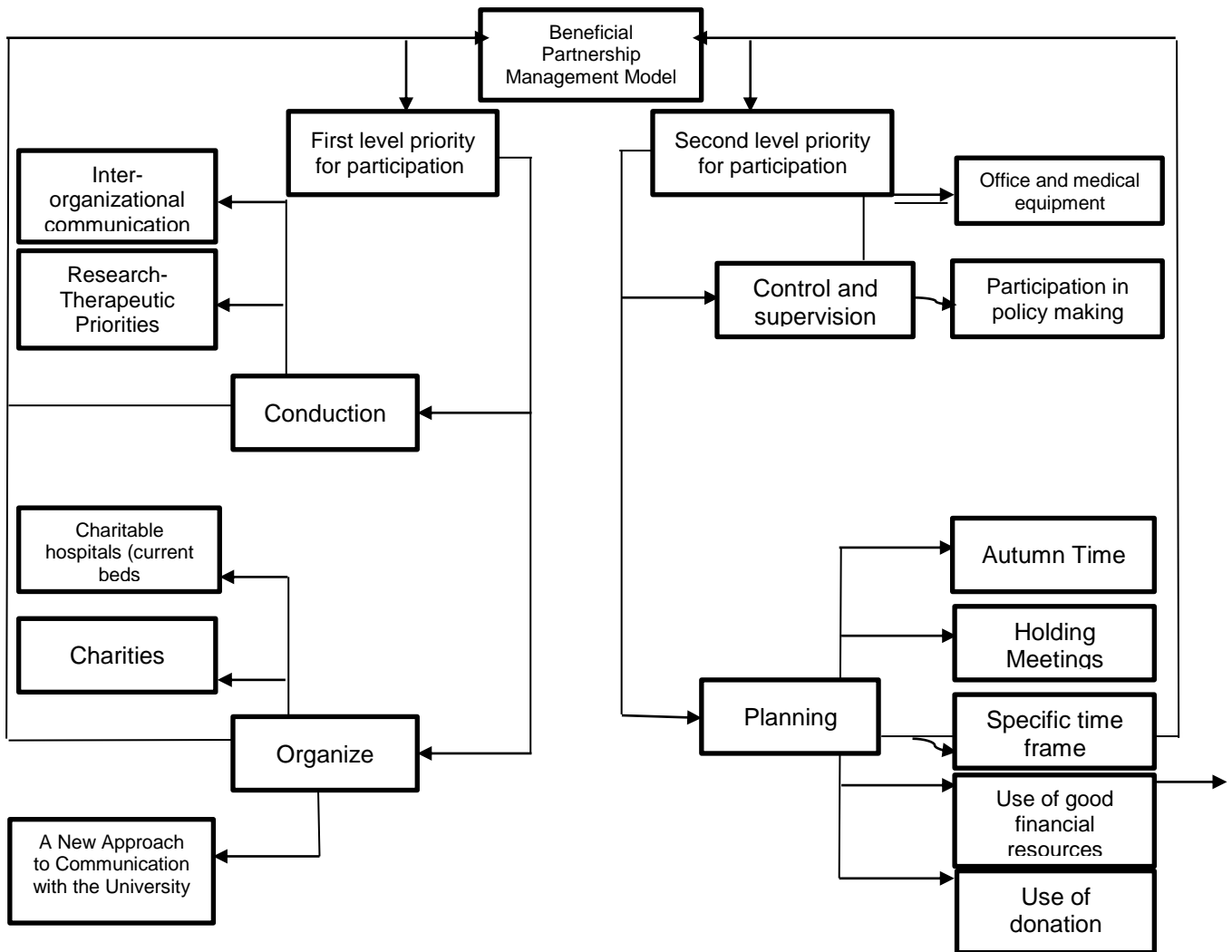
### **Using benefactors' financial resources in the field of research**

According to experts' opinion, using benefactors' financial resources in the medical field is considered very effective in the planning of the benefactors' management pattern of the university. Using the charity financial resources in the field of medical research can provide achievements for developing and improving the quality and quantity of health care provision.

Furthermore, according to the results of Delphi method, the factors influencing the organization of

health benefactors in the universities of medical sciences in the country include: 1. Charity hospitals 2. Active beds 3. Charity organizations in cities 4. A new approach to contact with the university and treatment and research priorities in benefactors' collaboration in the universities. Based on the findings, inter-organizational communication is known as one of the factors influencing the guidance and leadership of benefactors' collaboration in medical science universities. This component was accepted by the experts. Moreover, the findings indicate that the factors affecting the control and supervision of health benefactors' collaboration in the university of medical sciences according to the results of the questionnaire and experts' opinions are as follows: 1. Office equipment and health and 2. Participation in policy making. In this way, the influence of the investment in office and medical equipment and policy making participation have been averagely confirmed by experts' high degree of consensus.

Investment and allocation of resources to office and treatment sectors under the control and supervision of benefactors' collaboration has had the most impact and in research sectors has had the least impact. Moreover, controlling and supervision of the health benefactors' collaboration increases by participating in investment and application of opinion. Hence, an appropriate pattern should address medical and research priorities, the establishment of inter-organizational communication and then charity hospitals, active beds, charity organizations in cities, and a new approach to contact with the university. Finally, given the improvement of the Kendall coefficient at each stage of the questionnaire setting and its increase, it can be considered that the proposed pattern for health benefactors' collaboration sounds valid.



**Figure 1.** The Management Pattern of Health Benefactors' Collaboration

**Discussion**

This study aimed to provide a management pattern of health benefactors' collaboration in the universities of medical sciences in Iran. The findings of this study showed that in determining the health benefactors' collaboration management pattern, the first priority is guidance, the second priority is related to the organization, the third priority is known as the control and supervision, and the fourth priority is surely planning.

The benefactors' collaboration was evaluated as almost average. It may be due to the analysis that reveals benefactors' collaboration as a kind of decision-making; because the quality of plans and programs, the effectiveness and efficiency of the

strategies, and the quality of the results achieved are all subject to the decisions made by the benefactors in the universities of medical sciences of the country. Regarding the fact that the collaboration, its area and type are of the utmost importance regarding the basis for benefactors' duties, and choosing the type and method of decision making is certainly one of the most important components in making decision, it is necessary for the benefactors to have new and novel comments and ideas. Involving benefactors in collaboration means to engage them in decision making in the benefactors' work environment. In this case, the universities of medical sciences can involve the benefactors in decision-making issues

related to the type of collaboration at high or low levels. The high degree of engagement of the benefactors in decision making and the type of collaboration indicate that they are involved in the all levels of planning process. However, the low level of engagement of the benefactors in decision making refers to the process of head managers' exclusive management. The profound collaboration of the benefactors in decision making allows them to influence the planning process of the universities of medical sciences. These benefactors are those who are close to customers and introduce new products and services to improve the type of collaboration and also they are the main element in the collaboration process. This study showed that the type and level of collaboration in the benefactors' decision making may be through their direct involvement in their chosen organizations and its values are estimated as moderate. Moreover, direct forms of collaboration, such as informal meetings, suggestion system, surveys, and problem-solving groups were moderately evaluated based on which collaboration was formed.

The meetings were hold during the initial period of the academic year of the universities due to the development of guidance and planning by the end of the year, as well as providing a clear program for the university and the benefactors. The findings of this study are in line with the study of Imani and Furuji (14). In their study, the holding meetings are known as one of the most essential parts of the benefactors' attendance in universities. They should have a high level of performance, credibility and arrangement; moreover, the benefactors and goals are clearly identified and the operational efficiency of the meetings is extracted. The study indicated that the experts prefer meetings in specific timeframes compared to the meetings based on necessity. A specific timeframe can accurately determine the scheduling of meetings and prevent inconsistencies and interferences. The lack of benefactors and university authorities' attendance, although small, can have a significant impact on the outcome of the meetings. The specific timeframe makes the

planning of the goals and methods more precisely organized prior to meetings, so that meetings will be held easier and the desired and aggregated results will be achieved in a shorter time. The results demonstrate that collaborative leadership style affects collaboration in private organizations such as charities, and collaboration is a key element in shaping the partnership approach with private organizations and charities. In this regard, it can be concluded that collaboration with charity organizations, based on the results of Delphi method, has a major impact on the planning of benefactors' collaboration in medical sciences universities. Cooperation with charity organizations not only can create a better and more constructive interaction between the university and charity organizations, but also can enhance benefactors' morale and positive view to clearly illustrate charities and their own goals and viewpoints.

The results of this study are also consistent with Heshmati et al. (2014)(15), entitled "Improving collaborative management in the university through a justice-based system and suggestions, taking into account the place of collaborative management and justice in Islamic teachings". This study shows that using financial resources in organizations is known as an important component of collaborative management. In this regard, it can be analyzed that, according to the experts' opinion, using benefactors' financial resources in the field of medicine is very effective in planning the management pattern of benefactors in the university. Using the benefactors' financial resources in the field of medical research can provide achievements for the development and improvement of the quality and quantity of health care provision.

According to the results of Delphi method, the factors affecting the organization of health care in the universities of medical sciences of the country include: 1. charity hospitals 2. active beds 3. charity organizations in cities 4. a new approach to contact with the university.

The findings of this study are consistent with the results of Gharaei et al. (2011)(16), entitled "The

relationship between organizational atmosphere and accountability in selected governmental, private and charity hospitals in Hamedan and Yazd cities". This study indicates that although charity hospitals cannot work easily considering social problems, studies have shown that so far many hospitals have used the concept of active beds for benefactors and charity organizations through designing clear and objective interventions in their policies. Studies have shown that health care organizations that are responsive to the new approach of communicating with the university receive more support from their communities.

Moreover, the results of this study are in line with the findings of Alidadiani's study (2016)(17) entitled "Assessing the impact of collaborative management and its effectiveness on the organizational commitment of Bojnourd education staff". The study showed that collaborative organization is based on the logic that the benefactors should collaborate in the decisions process affecting their fate and have greater freedom in their administrative and organizational work. Therefore, they can control their work life and have more motivation; consequently, they will be more satisfied with their work, and their effectiveness and the organization productivity will increase. One of the methods of staff collaboration is their decisions system, which is recently known as the most successful collaboration system implementation method and it has been implemented more than other methods in the world.

Based on the results of the study, the medical and research priorities are very influential factors on the guidance and the health benefactors' collaboration in the university. Moreover, establishing inter-organizational communication states as one of the factors influencing the guidance and leadership of health benefactors' collaboration in the universities of medical sciences. This component has been greatly paid attention by the experts.

The results of this study are consistent with the results of the study by ImaniBarandag et al. (2016) (18) entitled "Investigating the factors influencing

the increasing health of the administrative system and coping with corruption: new studies in the human sciences". This study explains the issue of the administrative system of the health with regard to leadership and collaborative leadership. Moreover, it states that collaborative leadership and guidance are truly affected by several factors, some of which rooted in the values and belief of organizational members. If they are modified and strengthened, many of the organization ethical abnormalities will be resolved. From the experts' view point, collaborative leadership means observing the laws and regulations and organizational values in assigning tasks and administrative activities, as well as observing the rules for collaboration in the relations between the benefactors and staff. Improving health in the organization means any attempts to improve the ability of the organization, which will enable the organization to properly execute its duties based on the collaborative leadership and guidance and to achieve its goals. Moreover, preventing factors that prevent the organization from executing its duties and achieving goals based on collaborative leadership and guidance. Hence, the solutions failed to achieve the real health for guidance and collaborative leadership due to the lack of comprehensive consideration of all aspects of affairs. However, guidance and collaborative leadership can be attributed to a variety of factors, such as cultural, structural, economical, political, and social factors, which requires multidimensional strategies to achieve them. Guidance and collaborative leadership consider the health of the administrative system related to the health of the staff, especially the head managers and their leaders. Paying attention to the material and spiritual needs of the staff in the hospital means observing guidance and collaborative leadership.

Factors affecting the control and supervision of health benefactors' collaboration in the universities of medical sciences through considering the results of the questionnaire and experts' viewpoints include: 1. Office equipment and 2. Collaboration in policy making. In this way, investing in office

equipment and collaboration in policy making has been averagely approved by the experts' high consensus. Investment and allocation of resources to office and treatment sectors on the control and supervision of benefactors' collaboration has had the most impact and in research sectors has had the least impact. Moreover, controlling and supervision of the health benefactors' collaboration increases by participating in investment and application of opinion. In analyzing the findings of this study, it can be argued that lack of consideration regarding the control and supervision in the production of collaborative patterns will lead to slow working in healthcare environments. Slow working and lack of dynamism of human factors in health environments will cause recession and disappointment among the staff of these organizations as well as not achieving the goals and plans of the organization, and it will be a hazard to reduce the performance in the common patterns of collaborative management for hospitals. Slow working in human factors due to the lack of control and supervision of collaboration system in hospitals sometimes leads to a phenomenon of indifference in the staff of these organizations. This phenomenon is a characteristic of people who are engaged in repetitive and boring works, and they often believe the fact that there is little hope for improvement in their work environment. It is caused due to the lack of attention to the control and supervision in the collaborative management pattern. The results of this study are in line with the study of HasaniShalmani (2016) (19), entitled "The impact of school administrators' collaboration on programs and duties of public-private sectors". The study showed that controlling and supervision of collaboration, as one of the main elements of human resource planning, is one of the most important factors in providing collaborative management patterns recently that has a profound effect on other management activities. If, for any reason, human factors within the educational environment do not have the motivation and willingness to work and collaboration to achieve

goals, the control and supervision components of collaboration will improve the conditions.

The Delphi approach shows that the appropriate pattern can address medical and research priorities, the establishment of inter-organizational communication, then charity hospitals, active beds, charity organizations in cities, and a new approach to contact with the university.

Considering the fact that the proposed pattern of health benefactors' collaboration management in the universities of medical sciences of the country can be valid or invalid, the results show that due to the improvement of Kendall coefficient in each stage of providing questionnaire, it can be considered that the proposed pattern is certainly valid. The findings of the present study are consistent with the results of Alavi's study (2015), entitled "An introduction to human resources leadership with an emphasis on collaborative management". The study showed that the collaborative pattern is highly valid in leadership studies. The most important thing in the credibility of collaborative management is the existence of managers and their cooperating and using financial resources, as well as investigating the priorities and establishing inter-organizational communication. To validate the collaborative pattern in this study, it is stated that authority and management position in organizations with collaborative pattern include co-integration as well as convergence of educational approaches for implementing the educational pattern. The results of this study are also in line with the findings of Pejmanfar et al. (2015)(6), entitled "The impact of collaborative leadership style on the entrepreneurship of public education organizations". This study showed that credit patterns are highly valued for collaborative management, and it is important to access relevant information for effective decision making. Meanwhile, policy-making in collaboration, equipment, and organizational priorities is considered as an approach.

One of the limitations of the study is the lack of participation of a large number of universities as well as lack of their response. Recently, there

have not been similar studies with the same object.

### Conclusion

The management pattern of collaboration can be used to improve the management of health benefactors' collaboration in Iran Universities of Medical Sciences, and the highest priority to improve its performance depends on the organization and guidance among its members.

### Acknowledgements

### References

1. BaharShabani G, Eiman M, Godarzi M, Honari H. Development of Structural Equation Models of Participative Management and Organizational Agility in Selected Iranian Sports Federations. *Applied Research in Sport Management* 2016;16(1):11-24. Persian
2. Hillis V, Lubell M, Hoffman M. Sustainability partnerships and viticulture management in California. *Journal of Environmental Management* 2018; 217:214-25.
3. Singh R, Baird A, Mathiassen L. Collaboration risk management in IT-enabled asymmetric partnerships: Evidence from telestroke networks. *Information and Organization* 2018; 28(4):170-91.
4. Nastizae N, Abili Kh, Naderi A, OreyYazdani B. The Relationship of Collaborative Management with the Organizational Spirituality and Organizational Self-esteem of School Managers and Teachers of Zahedan City. *Quarterly Journal Of Educational Leadership & Administration* 2014; 8(1): 9-23. Persian
5. Koontz TM, Thomas CW. Use of science in collaborative environmental management: Evidence from local watershed partnerships in the Puget Sound. *Environmental Science & Policy* 2018; 88:17-23.
6. PezhmanFarh H. The Impact of Participatory Leadership Style on the Entrepreneurship of Governmental Organizations-Shavour Education and Education, Master's Degree in Educational Management, Payam Noor University, Tehran South Branch; 2015. Persian
7. Wilmer H, Derner JD, Fernández-Giménez ME, et al. Collaborative Adaptive Rangeland Management Fosters Management-Science Partnerships. *Rangeland Ecology & Management* 2018; 71(5):646-57.
8. Hosni Shelmani M. The Impact of School Administrator Participation on Programs and Duties of Participation of the Private-Governmental Sector. *Education* 2016, 126 (1): 47-68.
9. Robbins SP, Judge TA. *Organizational Behavior*. 13 Three Edition. USA: Pearson International Edition, Prentice-Hall; 2009.
10. Morrow PC, McElroy JC, Scheibe KP. Influencing organizational commitment through office redesign. *Journal of Vocational Behavior*. 2012. 81(1), 99-111.
11. Hermens N, Verkooijen KT, Koelen MA. Associations between partnership characteristics and perceived success in Dutch sport-for-health partnerships. *Sport Management Review*. 2019;22(1):142-52.
12. Ramezani MR, Abdollahian F, Safardost A. Investigating the dimensions of managers' tendency toward participatory decision making and their impact on organizational commitment: Case study in service organizations of Guilan province. *Journal of Improvement* 2013; (19):86-109. Persian
13. Sobhaninejad M, Omid M, Najafi H. Strategies for Managing Participatory Management in Universities Based on Islamic Foundations. *Cultural Engineering* 2015;(84):106-127. Persian
14. Imani J, ForjianNejad Gh. Study of the role of social interactivity in relation to participatory management and organizational development of Bandar Abbas high school principals, educational management innovations 2015; 38: 7-21. Persian
15. Heshmati MR, Kharakian A, Moharati Y. Improving participatory management in the university through the system of suggestions and justice by considering the status of participatory governance and justice in Islamic teachings, *Management at Islamic University*, 2014, 3(1): 71-94. Persian

Thanks are owed to all who participated and helped in conducting this study from Universities of Medical Sciences of Iran. This Research has ethics code from Yazd ShahidSadoughi University of Medical Sciences. ethical code: IR.SSU.SPH.REC.1396.127

### Conflict of Interest

The authors declare that they have no conflict of interest.

16. Gharayi H, Bahrami MA, Hamidi Y, Askari R, Tapak L The Relationship between organizational climate and accountability in selected public, private and charity hospitals in Hamedan and Yazd 2013, 2012, 3(1,2): 35-47. Persian
17. Alidadiyani Sh. Assessment of the Impact of Participatory Management and Effectiveness on the Organizational Commitment of Bojnourd Education Staff, Psychology and Educational Studies 2016, 11(2): 170-177. Persian
18. ImaniBarandagh M, Bayat A, BahramBagheri Y. A Study on the Factors Affecting the Increasing Health of the Administrative System and Coping with Corruption, New Research in the Humanities 2016, 17(165-178). Persian
19. Hosni Shelmai M. The Impact of School Managers Participation in the Programs and Duties of Public-Private-Public-Participation, Education 2016. 126: 47-68. Persian