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# Comparison of Non-teaching and Teaching Hospitals in Iran as an Integrated Medical Education System and Health Services

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**Abstract**

**Background:** Hospitals, similar to other organizations, are complex social systems influenced by elements, such as staff, resources, and structures, that work to achieve specific goals. In terms of goals and missions, hospitals are divided into teaching and non-teaching categories. There are many differences in the nature and needs of these two types of hospitals that must be considered for proper operation by policymakers and managers.

**Objectives:** The present study compared issues between non-teaching and teaching hospitals in Iran.

**Methods:** A qualitative study was conducted using semi-structured interviews according to an interview guide with 40 Iranian hospital managers and policymakers selected through purposive sampling in 2021. Data were analyzed through thematic analysis with an inductive approach using the MAXQDA software (version 10).

**Results:** According to the results, the main categories of differences between non-teaching and teaching hospitals in Iran were as follows: legal and social responsibility, cost-effectiveness and efficiency, supply of resources, empowerment of human capital, goals and missions, external and internal communications, revenue-cost management, organizational structure, customer satisfaction, organizational behavior, clinical and support departments, hospital processes, type and level of services, manpower, performance evaluation, and the organization of the teaching mission.

**Conclusion:** Practical findings of this study include understanding the complexity and instability of command unity in teaching hospitals, understanding the differences in organizational hierarchy, developing a mechanism to cover costs for clients, increasing the legal and social responsibility of the management team, prioritizing organizational goals, coordinating policy demands with providing resources, funding the teaching mission, organizing multiple supervisory organizations, establishing transparent communication between hospitals and colleges, understanding the complexity of processes, considering the change of individual and group communication, changing the performance appraisal system, and paying for performance. It is suggested that policymakers consider these issues in providing the resources and facilities needed for hospitals based on their function.

*Keywords:* Health systems agencies, Systems integration, Teaching hospitals, University hospitals

## 1. Background

Hospitals, as the main lever of health systems in every country, are divided into teaching and non-teaching categories (1). According to the preface and initial review, it is expected that differences in the missions of teaching and non-teaching hospitals cause differences in their performance indicators (2-10).

Considering the organizational system, teaching hospitals in most countries depend on medical universities or partly on the national or local health system (11). In most countries, these hospitals play a strategic role in teaching physicians (12,13). Meanwhile, non-teaching hospitals in most countries are those with general specialties aiming to protect societies' health (9).

Iran, however, is a special and unique system in the world that is different from many countries in various dimensions. It has been four decades since the regional health organization merged through changing Medical Sciences Universities, Medical and Health Services, and the Ministry of Health to the Ministry of Health and Medical Education (10,14). Another point is that the number of teaching hospitals in Iran is distinct from that in other countries. Based on a survey in 2017, around 45% of active beds and approximately 63% of the Ministry of Health active beds in Iran were for teaching purposes, which is also increasing (15), while this rate was much lower in other countries (16).

Previous studies have shown that Iranian teaching and non-teaching hospitals face several problems in playing their role (17-19). One of the reasons for such inefficiency is the lack of awareness of the required needs and infrastructure of these institutions. Additionally, there are many

differences in the nature and needs of these two types of hospitals that must be considered for proper operation.

## 2. Objectives

Therefore, the present study compared some issues between non-teaching and teaching hospitals in Iran.

## 3. Methods

A qualitative study was conducted in Iran in 2021. The research sample consisted of 25 hospital managers at different levels and 15 policymakers with enough experience in structuring hospitals in Iran recruited through purposive sampling from significant cases. They were from various cities in the country and had at least five years of working experience. Data were collected using a semi-structured interview to have an in-depth picture of the participants' perspectives. An interview guide was prepared based on the research goals, the theoretical foundation of the topic, and an extensive literature review (2-9,20). Interview questions included the following: Are the goals of these two types of hospitals different? What is their goal? Are there other differences between teaching and non-teaching hospitals? What were your experiences with these hospitals?

The participants were contacted to arrange the time and venue of the interviews. The interviews were often held at the interviewees' workplace. At the beginning of the interviews, the participants were presented with some explanations about the study and its purpose, and they were assured the interview data will remain confidential. Moreover, those who agreed to take part in the interview signed a written consent form before the interview. They were also informed of the right to withdraw from the study at any time for any reason. While the interviewer was notetaking, the interviews were also recorded by a sound recorder. The interviews lasted from 50 to 90 min and were immediately transcribed after each session. To analyze data, the inductive thematic analysis approach was used according to a step-by-step guide proposed by Braun and Clarke. Accordingly, the following steps were taken: 1) the data coder immersed himself in the data by listening to the recorded interviews, reading, and re-reading the transcribed data; 2) the initial list of ideas behind the data was generated, and the initial codes were produced from the data; 3) the data were coded and then analyzed thoroughly; 4) the themes and sub-themes were reviewed and refined by the research team; 5) the reviewed final themes were noted considering the cross-links between the themes and sub-themes; 6) the report was produced.

Data were gathered from April 2021 to June 2021. The validity of the data was based on four indicators, including credibility, dependability, confirmability, and transferability. Credibility was assured through long engagement with data and allocating enough time to data collection. An external reviewer supervised the data gathering process and approved the results to ascertain dependability. Data were analyzed by inductive content analysis using the MAXQDA software (version 10).

## 4. Results

The analysis of 40 interviews created 354 primary codes minimized to 135 codes after deleting duplicate codes and merging similar ones. Ultimately, the leading codes from the data analysis were assigned to 91 subcategories and 16 categories (Table 1). In the following, the research findings are provided with excerpts from the interviews.

### *4.1. Goals and missions of the organization*

In this category, participants referred to the unwavering principle of the unity of purpose, overcoming missions on each other, complexity in prioritizing organizational goals, and increasing the need to fit the missions with hospital facilities. As follows in p.32, the participants said: "We are now experiencing duality. One side is the educational affair of the school and the other side is the chief of the hospital. We have even ignored the principle of unity of purpose. Doctors and hospitals want more patients to earn more; however, the educational side says to take the time to train."

"These two hospitals are different concerning their mission and duty, so they differ in requirements. We cannot give the same budget and resources of a teaching hospital to a non-teaching one and expect to have education and treatment at the same time." (p.9)

### *4.2. Cost-effectiveness and efficiency*

Participants highlighted as subcategories increasing the diversity of foci affecting the effectiveness and efficiency, changing the role of senior managers in effectiveness and efficiency, changing the value chain, and understanding the complexity of coordinating policy demands with the provision of resources for hospital missions, as well as the complexity of providing comprehensive arrangements fit with the hospital missions. As follows (p.29), they said: "For effective teaching, processes, costs, and resources must be considered, and then action must be taken. Otherwise, the quality and effectiveness of hospitals will be questioned."

### *4.3. External communications*

For this category, participants mentioned increasing the impact of the fragmented performance of upstream organizations, the need for multiple

**Table 1.** Differences between non-teaching hospitals and teaching hospitals in Iran

| Category | Sub-category | Category | Sub-category |
|---|---|---|---|
| Goals and missions of the organization | ✓ Unwavering the principle of unity of purpose<br>✓ Overcoming missions on each other<br>✓ Complexity in prioritizing organizational goals<br>✓ Increasing the need to fit missions with hospital facilities | Cost-effectiveness and efficiency | ✓ Increasing the diversity of foci affecting the effectiveness and efficiency<br>✓ Changing the role of senior managers in effectiveness and efficiency<br>✓ Changing the value chain<br>✓ The complexity of coordinating policy demands with the provision of resources for hospital missions<br>✓ The complexity of providing comprehensive arrangements fit with the hospital's missions |
| External and Internal communications | ✓ Increasing the impact of the fragmented performance of upstream organizations<br>✓ The need for multiple supervisory organizations in issuing licenses<br>✓ The need for a transparent communication process between hospitals and related colleges<br>✓ Increasing the number and level of contracts<br>✓ Increasing the number and type of people associated with the hospital<br>✓ Increasing the number and level of individual and group communication<br>✓ Changing the type of employment and job description of senior managers<br>✓ Changing the role and position of senior managers<br>✓ Incidence of interpersonal conflict<br>✓ Incidence of intergroup and organizational conflict | Supply of organizational resources | ✓ Changes in planning and the need for transparency in the funding of the training mission<br>✓ The need to develop training coefficient in the hospital budget<br>✓ The need to cover the overhead training costs by the government<br>✓ Changing the supply chain management<br>✓ The complexity of the fit of expert human resources and facilities with the multiple missions of the organization<br>✓ Increasing the hospital influence to provide human resources, equipment, and hospital projects<br>✓ Monopoly of some services, manpower, and equipment |
| Empowerment of human capital | ✓ Increasing the level of knowledge and skills of staff at all levels<br>✓ Increasing motivation and diligence in staff<br>✓ Promotion of personnel by dealing with new issues and people<br>✓ Easier access to training courses | Hospital processes | ✓ Increasing the complexity of processes<br>✓ Duplication of processes<br>✓ development of new processes<br>✓ Increasing dependence in the planning of organizational units on the approval of committees |
| Manpower | ✓ Changing the type and frequency of people in the organization<br>✓ Shifting the use of the workforce<br>✓ Changing guidelines and processes for the role of the workforce in service delivery<br>✓ The need for enhancing the supervision of service delivery by the workforce<br>✓ The need to develop a virtual access platform for attends<br>✓ Changing the requirements for empowerment and continuous training of the workforce | Type and level of services | ✓ Clinical complexity of clients<br>✓ Increasing the frequency and level of outpatient and inpatient services<br>✓ Not dispatching the patient to receive services<br>✓ Upgrading the frequency, type, and level of services and the state tariff for disadvantaged areas<br>✓ Increasing the frequency of paraclinical instructions and the length of stay of the patient<br>✓ Providing faster access to services at night and on holidays |
| Internal and external customer satisfaction | ✓ Increasing the diversity of foci's satisfaction<br>✓ Decreased level of satisfaction<br>✓ Changing the reasons for dissatisfaction<br>✓ The need to inform and clarify missions for internal and external customers<br>✓ The need to develop a mechanism to cover possible material and spiritual costs for clients | Hospital organizational structure | ✓ Changing and increasing the scope of the manager's supervision<br>✓ Complexity and instability of command unity<br>✓ Changing the organizational hierarchy<br>✓ Changing the central positions of the organization<br>✓ The need to develop a clear job description for the management team<br>✓ The need to fit the position with the power, authority, and accountability of senior managers |
| Revenue-cost management | ✓ Increasing the hospital's capacity to attract its own dedicated revenues<br>✓ Increasing the cost of treatment for the patient and the health system<br>✓ The need to restructure pay for performance (training in parallel with medical)<br>✓ The need to develop non-material incentive mechanisms for staff<br>✓ Emergence of hidden costs of education<br>✓ The need to change the way of reimbursement of expenses<br>✓ Increasing costs of information and facilities and equipment management | Development of clinical and support departments | ✓ Finding the importance of the role and social position of the hospital<br>✓ Strong demand of hospital staff to be the research hospital<br>✓ Increasing the frequency and variety of specialized and sub-specialized wards<br>✓ Development of a library unit<br>✓ Opportunities for active 24-h wards<br>✓ Developing new committees and more active committees<br>✓ Increasing the frequency and variety of medical equipment |

**Table 1.** Continued

| | | | |
|---|---|---|---|
| organizational behavior | ✓ The incidence of opportunities for changing individual and group behavior at all levels and units<br>✓ Opportunities for changing in manpower motivation<br>✓ Opportunities for higher levels of organizational learning<br>✓ Increasing the level of need for effective interaction training<br>✓ Providing opportunities to increase staff motivation and organizational commitment<br>✓ Changing the level and methods of individual and group decision making | Organizing the training mission | ✓ The need to develop an organized structure to ensure the interests of trainees and trainers<br>✓ The need to develop motivational leverage for residents as absorbing elements<br>✓ The need to develop guidelines for respecting the principle of trainee's respect<br>✓ The need to organize the guidance and education supervision of non-medical fields<br>✓ The need to monitor the proper distribution of patients among students |
| Performance evaluation | ✓ Changing the performance appraisal system components<br>✓ Increase performance indicators<br>✓ Changing performance foci's response<br>✓ Increasing the need to develop internal incentive regulations<br>✓ The need to develop a comprehensive system of performance evaluation and two sides feedback | Legal and social responsibility | ✓ Increasing the legal and social responsibility of the management team<br>✓ Increasing the opportunities of extra tariff and guiding the patient to other medical centers<br>✓ Gaining public credit and branding hospitals and specialists physicians<br>✓ Introducing the hospital in the media and news |

supervisory organizations to issue licenses, the need for a transparent communication process between hospitals and related colleges, increasing the number and level of contracts, and increasing the number and type of people associated with the hospital. Participants said: "When we were being educated, there were more relationships and connections with other organizations, such as the governors, the ministry, and the university." (p.18)

"When we are educated, communication with the media and news agencies increases, and margins increase too." (p.20)

*4.4. Supply of organizational resources*

Participants indicated changes in planning, the need for transparency in the funding of the training mission, the need to develop training coefficient in the hospital budget, the need to cover the overhead training costs by the government, changing the supply chain management, the complexity of the fit of expert human resources and facilities with the multiple missions of the organization, increasing hospital influence to provide human resources, equipment, and hospital projects, as well as the monopoly of some services, manpower, and equipment. Participants said: "We are witnessing a growing demand for up-to-date and well-equipped facilities in teaching hospitals due to the presence of faculty members." (p.4)

"To become a teaching hospital, the clinics are created under the brand of faculty members." (p.19)

*4.5. Internal communications*

In this category, participants referred to increasing the number and level of individual and group communications, changes in the type of employment and job description of senior managers, changing the role and position of senior managers, as well as the incidence of interpersonal, intergroup and organizational conflict. As follows (p.2), they said: "Communication and management in teaching hospitals are very complex. Intra-organizational communication is more complex due to the formal and informal organizational structure."

*4.6. Hospital processes*

Participants highlighted increasing the complexity of processes, duplication of processes, development of new processes, and increasing dependence in the planning of organizational units on the approvals of committees as the subcategories. As follows (p.1), they said: "Outpatient services in teaching hospital clinics are longer. The distance between the steps and their number in the process is greater."

*4.7. Hospital organizational structure*

In this category, participants mentioned changing and increasing the scope of manager supervision, the complexity and instability of command unity, changing the organizational hierarchy, changing the central positions of the organization, the need to develop a clear job description for the management team, the need to fit the position with the power and authority, as well as the accountability of senior managers. Participants said: "The director of the hospital does not have the power and authority to supervise the departments and students, and it must be performed by the deputy or the director of education, who is a member of the medical school faculty and is accountable for it." (p.8)

*4.8. Type and level of services*

Participants stated the clinical complexity of clients, increasing the frequency and level of outpatient and inpatient services, not dispatching the patient to receive services, upgrading the frequency, type, and level of services, and the state tariff for disadvantaged areas, increasing the frequency of paraclinical instructions and the length of the patient's stay, as well as providing faster access to services at night and on holidays. As follows (p.22), they said: "In teaching hospitals, the number of diagnostic tests and counseling is much more than in non-teaching hospitals (due to the presence of students)."

*4.9. Internal and external customer satisfaction*

In this category, participants referred to increasing the diversity of foci's satisfaction,

decreased level of satisfaction, changing the reasons for dissatisfaction, the need to inform and clarify missions for internal and external customers, and the need to develop a mechanism to cover possible material and spiritual costs for clients. Participants said: "Lack of clients' clear information about coming to a teaching hospital causes conflicts between the doctor and the patient, as well as hospital officials, as a third party and intermediary." (p.12)

"When you send a resident to the patient's bedside, the patient asks, 'Is this a student? Where is my doctor?', we have to do a series of propaganda and information before people come, but what is the difference between a teaching hospital and a non-teaching one? The difference is that the tariff is lower than other hospitals, that is, we give an offer to the patient." (p.26)

*4.10. Manpower*

Participants highlighted as categories changing the type and frequency of people in the organization, shifting in the use of the workforce, changes in guidelines and processes for the role of the workforce in service delivery, the need for enhancing the supervision of service delivery by the workforce, the need to develop a virtual access platform for attends, changing the requirements for the empowerment and continuous training of the workforce. Participants said: "We employ a resident instead of a doctor, but their expenses and salaries are not provided, which causes the extra-tariff and patients leaving to other hospitals." (p.14)

*4.11. Revenue-cost management*

In this category, participants mentioned increasing the hospital's capacity to attract its dedicated revenues, increasing the cost of treatment for the patient and the health system, the need to restructure the pay for performance (training in parallel with medical), the need to develop non-material incentive mechanisms for the staff, the emergence of hidden costs of education, the need to change the way of reimbursing expenses and increasing the costs of information, facilities, as well as equipment management. Participants said: "A company that provides services can receive subsidies in two ways: directly and indirectly. The direct one is through getting money, training a doctor, and training a nurse. Why are they interested again? The indirect is to say we are a service provided by the nursing and medical student force. Although it has an error rate, I replace it by increasing the referral load and service turnover. But they do not know the hidden costs. And what happens?" (p.30)

"We have a lot of hidden costs in a teaching hospital that no one is responsible for, such as medical errors, repeating services, and control tests due to defensive medicine." (p.2)

*4.12. Performance evaluation*

Participants highlighted changing the performance appraisal system components, increasing performance indicators, changing performance foci's response, increasing the need to develop internal incentive regulations, and the need to develop a comprehensive system of performance evaluation and a two-sided feedback mechanism. Participants said: "The executive performance of the deputy director of education should also be monitored effectively to promote and encourage him." (p.13)

"The organized structure of educating the interests of trainers should be considered based on their performance indicators in education and research, and of course, along with monitoring the proper performance of tasks." (p.12)

*4.13. Organizational behavior*

In this category, participants stated the incidence of opportunities for changing individual and group behavior at all levels and units, opportunities of changing manpower motivation, opportunities of higher levels of organizational learning, increasing the need for effective interaction training, providing opportunities for increasing the staff's motivation and organizational commitment, as well as changing the level and methods of individual and group decision making. Participants said: "Behavior change occurs from the front door to higher levels. For example, when a new professor or associate professor starts working at a hospital, the hospital and the system have to willingly accept them. The issue of interpersonal communication is very critical in this regard." (p.6)

"For example, we selected a few people who have teaching skills to teach, and this became an incentive for the staff. The transformation of the hospital from non-teaching to teaching caused the staff to upgrade and update themselves." (p.14)

*4.14. Organizing the training mission*

In this category, participants highlighted the need to develop an organized structure to ensure the interests of trainees and trainers, to develop motivational leverage for residents as absorbing elements, to develop guidelines for respecting the principle of trainee's respect, to organize the guidance and educational supervision of non-medical fields, and to monitor the proper distribution of patients among students. As follows (p.33), they said: "Of course, training is very effective, and training a good neurosurgeon is beneficial for everyone. But does the resident who comes with all concerns about income and basic necessities, such as books and articles, learn anything?"

*4.15. Empowerment of human capital*

Participants mentioned as categories issues in increasing the level of knowledge and skills of the staff at all levels, increasing motivation and

diligence in the staff, promoting the personnel by dealing with new issues and people, and easier access to training courses. Participants said: "Because the deputy director of education came to the hospital, the interns and students came, they asked us for a series of tasks, and then a series of changes and events took place in the hospital. The change from non-teaching to teaching caused the staff to change as well." (p.3)

*4.16. Legal and social responsibility*

In this category, participants mentioned increasing the legal and social responsibility of the management team, increasing the opportunities for extra tariffs, guiding the patients to other medical centers, gaining public credit, branding the hospitals and specialist physicians, and introducing the hospital in the media and news. Participants said: "We employ a resident instead of a doctor, but their expenses and salaries are not provided, which causes the extra-tariff and the patients leaving to other hospitals." (p.14)

"My general view is that every hospital that is teaching is branded for itself in at least a few fields." (p.27)

*4.17. Development of clinical and support departments*

Participants referred to finding the importance of the role and social position of the hospital, the strong demand of the hospital staff to be a research hospital, increasing the frequency and variety of specialized and sub-specialized wards, the development of a library unit, opportunities of active ۲۴-h wards, developing new and more active committees, and increasing the frequency and variety of medical equipment. Participants said: "In our teaching hospitals because the faculty comes and we are dependent on the promotion discussion, this is where the research topics for the faculty members come up." (p.12)

## 5. Discussion

Hospitals, similar to other organizations, are complex social systems affected by variables, such as staff, resources, structure, and other factors that interact to achieve specific goals. According to the results, one of the points of comparison was the goals and missions of the organization. In this category, participants highlighted issues in unwavering the principle of unity of purpose, overcoming missions on each other, complexity in prioritizing organizational goals, and increasing the need to fit missions with hospital facilities. Apart from forming organizations based on the type of operations, the basis for most government institutions is the goal or type of service the organization is created to achieve (21). Furthermore, in the planning of medical hospitals, the basis of calculation is usually the basis of community needs and surveys, and the information on the type and percentage of diseases to assure the volume of wards and hospital equipment are of the highest importance while the basis of university hospital planning is medical education (21).

Based on the findings of the present study, the budget of teaching and non-teaching hospitals is different. The previously-mentioned problems revealed the lack of indicators and budget lines for different purposes in Iranian hospitals. Based on the results of the review phase, medical error and the number of diagnostic orders is higher in teaching hospitals. Moreover, another problem is the mismatch between policy demands and the provision of educational resources. According to the results of the present study, one of the solutions to solve these problems is to cover the overhead cost by providing subsidies under the title of education coefficient and also lower the tariff of the teaching hospitals similar to many countries (22). Education costs depend on various factors (23). Furthermore, hospital supervisors stated that a large part of hospital deductions is related to education. Deduction in medical disposable appliances is partly repaid by insurance; however, due to the increasing use of these appliances for educational purposes, the insurance does not repay them (23).

Another element of an organization is its structure. According to theorists, "structure follows strategy", which means that the organizational structure is strongly influenced by the mission, goals, and objectives of the organization (24). Therefore, as the goal changes, the structure will also change. In fact, organizational change often has a structural orientation, a situation in which the administrative arrangement changes to regulate items, such as strategy, financing, operations, or accountability (25). Studies have shown that the difference in the purpose of the hospitals leads to many differences in human resources (16). This is because building or changing an organization is different from building or changing the layout of a construction since profound changes will occur (1,26).

Organizational structure is a complex tool for controlling the interrelationships between members and at the same time, determining them. So that the emergence of the structure is a continuous process, achieving organizational goals is not facilitated unless the type of organizational structure is tailored to the situation (27). Structure, as one of the main components of an organization, refers to the pattern of internal relations. Teaching hospitals in Iran face serious challenges in playing their role concerning mission diversity and insufficient transparency in rules and codes, which are mentioned in the present study (3,28).

The next issue to change is the patient as the main customer of medical institutions (16). The present study emphasizes that more complex cases are

referred to teaching hospitals, which is confirmed by previous studies (29). When the dimensions of a mission are increased in a hospital, the complexities also increase, and hospitals are evaluated concerning all dimensions of their mission. In most countries, university hospitals represent a wide range of fundamental and specialized services to patients under their coverage (5). Moreover, these centers are less involved in operations and care rather than other hospitals. According to the Association of the American Medical Colleges data, teaching hospitals form only 5% of all hospitals and represent improper care to Medicare and Medicaid patients and transfer patients under the coverage of charity cares or those with complex needs, such as burning and trauma victims (5).

In addition, the findings indicate internal and external customer satisfaction as another category since in teaching hospitals, many patients are hospitalized in one room due to the stampede of these units (30). This challenge will be of higher importance in Iran, where the governmental medical service system and medical education have been merged in such a way that practically, the patient has limited options. According to distributive justice, although the community's future need is considered in training experienced physicians in teaching medicine, seemingly, its effect on the health system has not been evaluated (31). It is on health policymakers to provide patients, who are cured in the teaching system with facilities to balance advantages and disadvantages for every individual.

The findings of the present study indicated there has been a shift in the use of manpower in Iran. It is stated that employing students as a medical force has challenged the quality of service and patient rights in Iranian teaching hospitals. However, the participation of medical group students and interns in the process of curing patients is inseparable from teaching medicine (32).

Based on the results of the present study, the chain of results of teaching and non-teaching hospitals in Iran is different from that in the rest of the world. According to previous study findings, the output indicators of teaching and non-teaching hospitals in Iran are different (2-9,20).

Another issue in this organizational change will be facility management and in particular, physical space requirements and prerequisites. Facility management in a hospital is the process of reassuring supervisors that a hospital's facilities, equipment, access, engineering, and architecture support its mission as an important medical institution. In the design of a building, it is necessary to study the basic needs related to the list of spaces for the types of functions and its capacity as a physical program. Because, if one of the spaces is neglected, the desired architectural design will not meet the functional needs, and on the other hand, if the infrastructure of the building is useless and without much plan and logic, the architectural design will be non-economic.

### *5.1. Limitations*

Some experts were not willing to cooperate and participate in the interviews. Attempts were made to solve this problem and to attract their participation by sending official recommendation letters by our colleagues. As a qualitative attempt, the present study could investigate and make comparisons between non-teaching and teaching hospitals in several aspects. However, this can be explored from other perspectives, such as differences in challenges and problems, or using other methodologies.

## 6. Conclusion

It should also be noted that teaching and non-teaching hospitals have many deep differences. If the hospital is considered a system, by changing its function, its chain of results will also change. In fact, these changes start with the inputs, will continue with the process, and eventually will change the output.

Considering the complexity and instability of command unity, understanding the change of organizational hierarchy, developing a mechanism to cover costs for clients, increasing the legal and social responsibility of the management team, prioritizing organizational goals, coordinating policy demands with providing resources, funding the teaching mission, organizing multiple supervisory organizations, transparent communication between hospitals and colleges, understanding the complexity of processes, considering the change of individual and group communication, considering the change of performance appraisal system, and paying for performance were the practical findings that policymakers should consider in providing the resources and facilities needed by hospitals based on the type of function.

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## Footnotes

**Conflicts of Interest:** There are no conflicts of interest.

**Ethical considerations:** As part of a PhD dissertation, this study complies with ethical considerations and was approved by the Iran University of Medical Sciences, International Campus (IUMS/SHMIs_2019_1_37_14429).

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