



# Study of the Organizational Structure of Military Hospitals in Selected Countries of the World Based on the World Bank Model: A Qualitative Study

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## Abstract

**Background:** The health has turned into one of the most important issues in different societies; hence, the demand for health-medical services has increased.

**Objectives:** The present study aimed to investigate and use the experiences of the military health system of other countries regarding the organizational structures of their hospitals based on the World Bank Model.

**Methods:** This study based on the model of Perker and Harding investigated and compared the organizational structure of military hospitals in nine countries, namely Germany, Brazil, Turkey, South Korea, South Africa, China, Pakistan, Italy, and Iran through semi-structured interviews.

**Results:** The findings showed that in 18 interviews, 61% of the participants were specialist and subspecialist doctors, and the work experience of 39% of the participants was between 25 and 30 years. The World Bank Model (Preker and Harding), for hospital structure, considers five dimensions, including decision rights, market exposure, residual claims, accountability, and social functions. In the dimension of the decision-making right, the findings indicated the focus of this dimension in the studied countries. Facing the goods and supplies market in a country like South Korea is left to the hospital; however, in South Africa, it is centrally conducted by the Health and Medical Commander. In countries, like South Korea, Pakistan, China, and Iran, the residual claimant is propelled through the creation of committees or supervisory boards, while hospitals have some authority over their residual claimant. In the other studied countries, the authority of all residual claimants is with the highest level of military health and treatment sector of the relevant country. In countries, such as Germany, Italy, and South Korea, accountability towards stakeholders has become decentralized. The dimension of social functions is not considered among the duties of military hospitals; nevertheless, all the studied countries practically had a relatively active presence in the field of social functions and assistance.

**Conclusion:** Given the importance of the health of the military community and the lack of available and published data and studies, it is necessary to make use of the experiences and learnings of this field by conducting studies on the military health system.

**Keywords:** Military hospitals, Organizational structure, World bank model (Preker-harding)

## 1. Background

Recently, health has turned into one of the most important issues in different societies; hence, the demand for health-medical services has increased. Maintenance, promotion, and restoration of the health of military society (staff, retirees, and their families) refer to the maintenance and promotion of the level of martial readiness and competency of a military organization that provides national security for a country (1). Generally, military health systems of the world have two main types of medical healthcare: 1) maintenance of operational medicine capability to support martial operations ("readiness" operations) and 2) provision of health and medical services and care to the militants' families and other relatives of the armed forces who use the related hospitals for the execution of the secondary procedure (2).

Islamic Republic of Iran Armed Forces (IRIAF) has not been an exception and performs its mission by using around 90 hospitals and around 10,000 hospital beds. Therefore, these hospitals serve several million people (army staff, their families, and their other

relatives) who directly receive their medical and health services from such centers (3) and other units and peoples of society whether in crises or in public references. Therefore, how they are organized and also their performance is of high importance due to the heavy responsibility of these centers.

According to the efficiency and effectiveness report announced by the Ministry of Health and Medical Education, most military hospitals in Iran are considered inefficient (3). Moreover, according to previous studies, the current management system of hospitals in Iran, especially governmental and military centers, does not follow a balanced and regular pattern. In addition, it seems that the current system, including human, physical, financial, and managerial resources, and executive rules and regulations are not able to solve the problems and challenges in the future (4).

Nowadays, the increase in healthcare costs and inefficient performance of healthcare and military medical centers in the world has led to a fundamental revision of the structure of military hospital healthcare systems in most countries of the world

(5). In this regard, England, Australia, and Canada have fundamentally changed the structure of their military health systems and military hospitals since the 1990s. They achieved this goal by removal of independent military hospitals as a part of the military health system reformations and using Public Health System 1 for the treatment of armed forces staff. The United States Congress forced the Ministry of Defence to do extensive studies in this field by highly pressing the Ministry of Defence and asking for reducing military health costs of this country; consequently, they fundamentally changed the structure of their military health system (6). Various recent studies are demonstrative of the low efficiency of Iranian military hospitals (7, 8) and necessarily the improvement of efficiency and increasing effectiveness of such hospitals is among the basic challenges of the military health system of Iran (9).

The health system is a complicated and sensitive issue that deals with human lives; however, there are scarce resources in this field. Moreover, trial and error and experience to promote the performance of such organizations may incur heavy costs as it can lead to the loss of valuable resources and human lives. In addition, social sciences research and its results are time-consuming and the use of experimental methods leads to losing valuable time. Therefore, it is reasonable and logical to use the comparative method and perform comparative studies to use the experiences and knowledge of others about this issue (10).

## 2. Objectives

In this regard, the present study aimed to investigate and use the experiences of the military health system of other countries regarding the organizational structures of their hospitals based on the World Bank Model.

## 3. Methods

The current qualitative research was conducted comparatively by using framework analysis to investigate and compare the hospital structure of military health systems in different countries. Given the special conditions and unique information in the military field, the data of this study has been collected through interviewing the experts of the military system of such countries and also the military relatives of IRIAF in the studied countries with the cooperation of Assistance of Intelligence of IRIAF and is free from any classified information. Furthermore, in the case of the presence of any information in internal and foreign databases, such information was used to complete study data.

### 3.1. Research Sample and Inclusion and Exclusion Criteria

The inclusion criteria for entering countries into this study were:

- Possession of a regular and classic army
- Possession of good and diplomatic relationships
- Presence of the military relatives of IRIAF in the considered country

Exclusion criteria were not meeting the inclusion criteria, as well as not accepting an interview request or not sending a response to the request of the research team. Given the inclusion and exclusion criteria of the countries in this study, the desired questions (Appendix 1) were sent to 33 eligible countries, 8 of which (Germany, Brazil, Turkey, South Korea, South Africa, China, Pakistan, and Italy) were included in this study along with Iran.

To select participants who have been a military intermediary between countries, purposive sampling has been used (11). According to this method, those with the most and the richest data who were able to suitably provide the researchers with their required information were selected as participants (12).

### 3.2. Data Collection Method and Instrument

The required data were collected using semi-structured interviews. To prepare interview questions, Preker and Harding World Bank Model (PHWBM) dimensions were considered, and also the questions were revised by reviewing the texts and opinions of experts. The semi-structured interviews were conducted virtually by the researcher and through the cooperation of the Deputy of Army Intelligence with nine experts in the mentioned countries. The interviews were recorded by a voice recorder and also notes were taken during the interview to record the information. The interviews were transcribed immediately after being listened to several times. Moreover, the interviews continued until data saturation was achieved and the participants had no more information to provide (13).

### 3.3. Data Analysis Method and Instrument

The framework analysis method was used to analyze the data collected from the interviews. The framework analysis method is a hierarchal approach used to classify and organize data based on key contents, concepts, and created classes. Moreover, this analysis method is highly efficient for extensive studies in politics. The framework analysis method, as one of the qualitative data analysis instruments, allows the researcher to deeply investigate data and at the same time precisely and effectively audit them which reinforces the precision of the data analysis and validation process (14, 15).

The current study uses Preker and Harding World Bank Model on the organizational structure of hospitals, considering the limited documents and studies in this field and the necessity to have a framework and pattern as the target of the study. According to the definition of PHWBM (Preker and Harding Model And World Bank Organization), any organization has five aspects, including the decision-

making right, confrontation with the market, owner of financial balance, responsibility, and social function (16, 17), which have been the basis of interview questions and data collection in this study. AtlasTI.9 was used to analyze the collected qualitative data.

### 3.4. Study Validity

To increase the validity, transferability, and data reliability, the implemented texts were read several times and data immersion was employed. Consequently, the responses of participants were summed up in interviews with experts and read for them to confirm their correctness and the understanding of researchers. In addition, in the analysis of this work and to increase the correctness of the study, two of the authors extracted, integrated, and classified the data in the determined dimensions in most stages of working with data, especially in data implementation. The present study was recorded at Iran University of Sciences, Tehran, Iran with the number 18315.

## 4. Results

The data collection process of this study lasted for one year from February 2020 to February 2021. The necessary coordination was ensured and the interviews were made possible with the experts of the military health system of the selected countries. In total, 61% of the interviewees were specialists and sub-specialists and 39% of them had work experience of 25-30 years. Table 1 summarizes the characteristics of the interviewees.

### 4.1. Decision-Making Right Dimension

This dimension has wide fields and the participants

**Table 1.** Characteristics of participants

Row	Description	Number	Percentage
1	Academic degree Specialist and sub-specialist	11	61%
	Management Specialist in the healthcare field	3	
		7	39%
2	Service experience 15-20 years	3	16.5%
	20-25 years	6	33%
	25-30 years	7	39%
	30 years and above	2	11.5%

have considered decision-making in strategic plans, human force, and financial management and resources as the main categories of decision-making dimensions. Almost all countries execute decision-making in strategic plans, mission determination in the military health system, and military hospitals concentrated and at the highest level of decision-making. Decision-making in human forces is fully focused in countries, like Germany, Pakistan, and China, while countries, such as South Korea and Turkey, have higher authority in hospital management.

Financial management in Turkey has been conducted by making a controlling board at the level of the region and delegating authorities to military hospitals. However, financial management is fully concentrated in Germany, South Africa, and China where there is no flexibility to apply the opinions of military hospital chairmen. The ownership of all places and buildings in all studied countries belongs to the government (Ministry of Defence) and/or the related country army. The findings of this dimension are tabulated in Table 2.

**Table 2.** Decision-making findings

Country	Decision-making findings
Germany	<p>Health and medicine in Germany are supervised by the health and medicine command which is a subset of the Ministry of Defence.</p> <p><b>Strategic decision-making:</b> it is concentrated and performed by the Ministry of Defence, P3 maintains that long-term paths and targets are precisely determined and announced. Decision-making about structure and organization, mission, and strategy is notification but the hospital chairmen may represent their suggestions to the health and medicine command and apply them in the case of approval.</p> <p><b>Decision-making in human force:</b> employment and displacement are authorized by the health and medicine command, but the hospital is responsible for the control, supervision, encouragement, and punishment of the staff and in the case of having special opinions about staff, the decision may be made by obtaining the opinion of health and medicine command, participant P8 maintained that discipline code is precise and strict and hospital chairman manages the staff based on that. Participant P3 stated that regarding decision-making of financial management, a specialized board in health and medicine command controls and monitors the supreme supervision of plans and their execution. Therefore, to delegate more authorities, an auditing committee has been created in the health and medicine command and the hospitals decide and execute allocating and realizing validation by representing short-term, midterm, and long-term plans, regulating agreements, and taking the confirmation of the described committee.</p> <p><b>Decision-making about construction and physical resources:</b> Ministry of Defence is the owner of all German Army buildings and the constructions are decided focally based on agreements participant P3 expressed that the hospitals have a supervisor but not an executive role for place construction.</p>
Brazil	<p>Health and medicine in Brazil's Army are supervised by the health and medicine command which is a subset of Brazil's Joints Chiefs of Staff. Participant P1 expressed that given the importance of health and medicine in Brazil's Army, the health and medicine command is concentrated in the Commander-in-Chief of the Army.</p> <p><b>Strategic decision-making:</b> It is focal and conducted by the Commander-in-Chief of the Army. The structure and organization, mission, and strategy are announced and considered by army upstream documents, but hospital chairmen have specific authorities in this regard and may present their suggestions to the health and medicine command of the army and apply them in case of approval. Participant P2 maintained that the hospitals regulate and represent their announced long-term plans based on their annual plans.</p> <p><b>Decision-making in human force:</b> Based on participant P2's opinion, given the diversity of human force in the army health field, all hospitals have specific authorities to control their performance, hence, considering the existence of fixed staff (military) and contemporary and non-militant staff, the authority about military staff is at the level of controlling their performance. However, they also control attracting and canceling the contracts of the non-military staff.</p> <p><b>Financial management decision-making:</b> Specific Financial Commission in the Army General Staff supervises the hospital's performance in the financial field as a financial control committee and investigates the authorities and performances of hospital managers. Participant P1 expressed that considering the financial crimes and problems, there is severe control on performance in the financial field. The hospitals decide and execute allocating and realizing validation by representing short-term and long-term plans and regulating agreements and then obtaining the confirmation of the described committee.</p> <p><b>Decision-making in the construction and physical resources field:</b> Army General Staff is the owner of all places and buildings of Brazil's Army and the constructions are focally decided based on agreements.</p>

Table 2. Continued

Italy	<p>Health and Medicine Assistance is the highest-ranking Italian military health system which is supervised by the Ministry of Defence. <b>Strategic decision-making:</b> Considering membership of Italy in NATO, strategic decision-making is concentrated and performed by the Ministry of Defence as the level of concentration has been reduced by granting authorities, such as the presentation of suggestions by hospital chairmen. Participant P11 described strategic decision-making announced which is regulated and announced the by Ministry of Defence based on the policies of the country and NATO.</p> <p><b>Decision-making in human force:</b> Participant P10 expressed that the health and medicine command needs to gather human force and announce the Ministry of Defence. Hence, the staff is employed focally by the Ministry of Defence and their performance is controlled by hospitals considering the disciplines and human force regulations. Health and Medicine Assistance of the Italian Army has created a suitable situation to grant authorities, evaluation, assessment committee, and represent services which are considered an upstream committee supervising the performance of hospitals in human and financial decision-making fields. Therefore, the authorities of the hospital chairmen are more than concentrated condition. Accordingly, the hospitals directly conclude agreements and contracts with the related complexes to mission their physicians to help the civil engineering section. The ownership of all Italian Army buildings and lands is focally authorized by Armed Forces Foundation. Any construction has been recorded in the Ministry of Defence plan and is executed after supplying credit by the Ministry of Defence and the hospitals are only beneficiaries. Interviewee P11 maintained that the Ministry of Defense is the executor and health and medicine is the supervisor.</p>
Turkey	<p>Due to the recent changes in the hierarchy of the Turkish Army, the Health and Medicine Command of the Army in the field of military hospitals is controlled by the Ministry of Defence and this ministry is a strategic decision-maker. Interviewee P6 maintained that the recent codetta and its consequences have caused fundamental changes in the organizational structure and hierarchy.</p> <p><b>Human forces decision-making:</b> Human forces are supplied in two ways. First, military forces are employed, trained, and delegated through specific military ways. The hospital chairman plays a role in deciding the number and type of allocation and delegation by announcing the needs. The second type is the non-militant staff who are employed in specific specializations and/or service staff that the hospitals contract and employ based on the permissions from the health and medicine command. Participant P4 maintained that lots of specialists and physicians who were skillful were not militant or represented by military universities. The hospitals are not allowed to fire or separate services directly and should refer the considered individuals to the related commissions by completing the necessary documents. The health and medicine command decides in this regard through related commissions. On the encouragements and punishments and disciplinary cases, the hospitals are also controllers and executors of the related instructions. Participant P6 expressed accruing to financial decision-making all hospitals' incomes are deposited to concentrated and unilateral accounts. Hence, service costs are deposited to the centered account of health and medicine command by the insurance organization and then delegated to the hospital account. Given that the wholesome purchases are focal, credit return is based on specific percentages and the hospitals use a specific percentage of credit return based on the number of beds and services. Since the credits are allocated in the form of annual plans which are suggested by hospitals for higher rankings, the hospital chairman has the necessary authority to obtain credit and spend it.</p> <p><b>Physical resources decision-making:</b> The hospital chairman expands hospital place and equipment by suggesting the construction and/or development of new sections and/or buying new equipment and representing explanatory plans related to higher ranking and by obtaining the related confirmation and participant P4 explains that hospital chairman and his consultants prepare their plans based on hospital landscape and the existing needs and report for the establishment of new sections and places.</p>
South Korea	<p>Health and Medicine Command of the South Korean Armed Forces helps military medical units by preparing guidelines and instructions related to quality management and public health, providing a wide range of training and practices, and making medical information systems. Participant P9 maintained that speed in decision-making and short path of announcing order are the inherent characteristics of military decisions; hence, strategic decision-making is not an exception. By determining guidelines, announcing strategic plans, training specialized health and medicine forces, and monitoring hospitals, this command plays a main and determinative role in strategic decisions. By preparing and suggesting midterm and annual plans, the hospitals' chairmen are decision-makers in the related fields. Having management to monitor and assess managers at different levels, health and medicine command identifies efficient managers and suggests different managerial levels. Moreover, it always provides the commanders with a suitable and ready-to-work reservoir of managers. Participant P16 maintained that training staff and replicating managers is a very important issue and the manager's assessment and monitoring committee always monitors this process. Hospital managers have suitable authority to make new services and use new technology to pioneer service quality and diversity by coordination with the health and medicine command.</p>
South Africa	<p>Military Health System in South Africa is among the exceptions in this field in the world as the health and medicine command in South Africa's Army has a fully independent and complete structure, like land, air, and marine forces. Participant P12 expressed that the south African Health and Medicine Command is a rare example in the world and it has been organized at the level of martial forces due to understanding the importance of health. Participant 15 emphasized their strategic decision-making as main decisions and policies are announced by the health and medicine command and the hospitals are responsible for executing them. The health and medicine command of South Africa, as the highest reference of policy-making and decision-making in the military health field of this country, determines and announces large-scale targets and policies in different human forces fields and services representation, and the command hierarchy of this country is obliged to execute them. Hospital chairmen are appointed by the direct order of health and medicine command and their expectations and duties are inserted in their appointment document. Since the duties are announced, the limit of the hospital chairman's duties is announced. Participant P12 expressed that in first-world countries, the manager announces his plans to receive a management post, but here the plans that the managers have to execute are announced to them. Specialized staff, like physicians, nurses, and medical assistants are employed and trained by army health and medicine training centers and then are divided among units based on their needs. All such staff have been militant and are obliged to observe and execute the rules of the South African Army. Interviewee 12 maintained that lots of specializations are not trained in military institutions. Human forces shortcoming is overcome through the employment of students at South African non-military universities and training centers. Accordingly, the hospitals directly contract with them and are obliged to pay them. Therefore, the hospitals have suitable authorities to attract non-militant staff.</p>
Pakistan	<p>Pakistan Health and Medicine Command is the highest reference in Pakistan Army and is supervised by the Commander-in-Chief Army. Main policies and strategies are determined and announced by Commander-in-Chief Army. Regarding strategic decisions, the hospitals are decision-makers as they define the duties and instructions. The hospitals' chairmen are responsible for designing their future path and landscape based on the related upstream documents in the form of a 5-year plan. After defending the suggested targets and plans, they follow and execute the confirmed targets that supply the necessary credits to achieve the confirmed targets, and plans are confirmed and delegated as annual credits. Participant P7 stated that the hospital chairman is obliged to execute hierarchal orders and decisions and these orders are announced to him. Regarding authority about the human force supply, participant P5 described that human force attraction and allocation is by army command and we only announce our needs. Hospitals' chairmen supply their needed staff by announcing their needs. All staff has governmental rights and hospitals do not accept costs in this regard. Disciplinary management and staff control are the responsibilities of hospital chairmen. Based on the type of hospital, the authorities and the type and the level of punishments and engagements differ. Participant P5 emphasized that the level of the hospital determines the authority of its chairman. Participant 7 stated that the ownership of all army places and spaces belongs to Commander-in-Chief Army. The ownership of all buildings and installations belongs to Pakistan Army and the constructions and repairs are performed by Pakistan Army Engineering Office. The hospitals are appropriate with confirmed targets and plans supervising the execution of constructions and repairs.</p>
China	<p>On strategic decision-making, participant P13 emphasized that strategic decisions are fully announced and there is no option in this field. Human resources of health and medicine of the People's Republic of China Army are supplied by Army General Staff and considering the instruction of the China Army Human Resources Organization. The staff of this set includes both militants and non-militants. The army employs and manages a specialized staff of health and medicine in two forms of permanent and contemporary, based on the investigations and measurements by health and medicine of the People's Republic of China Army and military regions command. Participant P14 maintained that we have both militant and non-militant physicians. The salary and bonus of staff based on military rankings are also specified by the special rules of the army and the federal government. Participant P13 stated that health and medicine resources and credits budget and confirmation so the financial resources of China Army health and medicine are defined by government annual budget rule, after fulfilling needs by the financial organizations of the People's Republic of China and with the help of health and medicine office.</p>

Table 2. Continued

<b>Iran</b>	<p>The health and Medicine Office of General Staff of the Armed Forces of the IRI has determined and announced general and strategic policies for the healthcare field. Participant P17 maintained that policy-making, guiding, and supervising the health field strategically is fully announced and we have determined the executor of confirmations and instructions. Hence, the system is fully focal and announced in the strategic decisions field. Considering the need for hospitals and the impossibility to train and educate all specialized forces in the health field, specific authorities have been granted to employ contractual staff for hospital chairmen that the health and medicine office of each force supervises this as a unit higher than hospitals. Participant P18 emphasized that recently, the authorities regarding the employment of the needed specializations and especially, their payment have been improved. The financial field in Iran hospitals has unbalanced status and the lack of integration and coordination in the performance of different hospitals causes different conditions in hospitals. Participant P18 stated that there is still no full financial instruction. The ownership of all places belongs to the Ministry of Defence of Iran.</p>
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4.2. Market Exposure Dimension

This dimension has been considered by the participants to have two aspects, including a) confrontation with referents and staff market and b) confrontation with goods and necessities market.

Regarding the confrontation with referents and staff, in some countries, such as Germany, Italy, China, and South Korea, due to the lack of funds in military hospitals and paying credits through budget rows and transparency in financial management, there is no need to compete with non-military hospitals. However, military hospitals in Turkey, Iran, and Pakistan do not need to increase their income and compete with non-military hospitals.

Confrontation with the goods and necessities market in a country like South Korea has been delegated to hospitals by announcing confirmed companies and brands. In South Africa, this is possible focally and by the command of health and medicine. In countries, like Brazil, Iran, and China, rating goods and necessities, some items (small items or those with low to medium price levels) are prepared by hospitals and with the supervision of higher rankings. Moreover, in the above-mentioned countries, items with higher price levels are focally prepared and divided. Findings of the statements of participants regarding this dimension are summarized in Table 3.

Table 3. Market Exposure Dimension

Country	Market Exposure Dimension
<b>Germany</b>	<p><b>Confrontation with product market:</b> due to the lack of importance of money-making and reliance of hospitals on granted credits, there is no competitive market with other hospitals. Federal Army hospitals represent round-the-clock services, including intensive care unit measures, surgery, medical services to accidents, and aid and save services to the staff of armed forces and non-militant people. P4 expressed that considering the lack of clinical cases in militant referents, in the case of non-admittance of non-militant patients, the staff will gradually lose their skills. These services are provided round-the-clock in army hospitals and in fact, federal army hospitals are hospitals for the treatment of acute, emergency, and complicated diseases. The non-militants are served as well as the militants.</p> <p><b>Confrontation with preparations market:</b> army hospitals provide limited services and their purchases, protocols, budget, legal problems, and planning are focally conducted in coordination with the army health and medicine command committee. Hospitals play no role in constructing or buying the equipment as buying medical products is on the German Army Preparations and Equipment Innovation Center. Buying services is mainly done focally by concluding a contract with valid companies. P3 explained that not all companies are allowed to provide services and equipment to the military centers. Regarding the combination of military and non-military personnel in German Army Health and Medicine, the militant staff are graduates of German Army educational centers and non-militant personnel is graduates of other universities. In the preparations field, the supervision committee on preparing and distributing the needs of hospitals grants authority to the hospital chairmen.</p>
<b>Brazil</b>	<p>The Army health and medicine office provides the health and medicine services of the Brazil Army which supplementary forms the army health system to supply its needs by using financial contracts with health organizations. Army health system supplementary also works in the private market and only doesn't cover the required cares and other necessary medical and paramedical needs of the army and military families in Brazil in terms of preventing from diseases, recovering health, and rehabilitating by providing medical, dental, and pharmaceutical professional services and supplying and applying tools. P2 maintained that military hospitals have to pay specific incomes; hence, the authority is given to hospitals to directly conclude contracts to employ specialists. The hospital chairman is allowed to conclude contracts with private physicians to employ the necessary specialists by using the delegated authorities and in the field of confirmed rules but the payments are made through the army health and medicine office. Necessary materials and tools for healthcare are obtained through the national market by observing the current principles of federal governmental management. Hospital authorities are completely focal in confrontation with the preparation market due to the focal purchase of the health and medicine office of the Brazilian Army and their distribution through the army support system. P1 maintained that the list of companies is specific and the devices and equipment are directly bought by the command.</p>
<b>Italy</b>	<p>Due to the unimportance of money-making and the reliance of hospitals on granted credits, there is no competitive market with other hospitals. Moreover, they provide services to both militants and non-militants. There is nothing called a bribe in army hospitals and all costs are paid by insurance. The paid sums are only deposited to the account. P11 said: "bribe? What is it?". Army hospitals have limited authority and their purchases, protocols, budgets, legal problems, and plans are focally conducted in coordination with the army health and medicine command committee. Hospitals play no role in constructing or buying equipment, buying medical products is on the Italian Army Preparations and Equipment Innovation Center. P10 emphasized that equipment is bought focally and we only announce them. Buying services is mainly done focally by concluding a contract with valid companies. Regarding the combination of military and non-military personnel in Italian Army Health and Medicine, the militant staff consists of graduates from Italian Army educational centers, and non-militant personnel are graduates of other universities.</p>



**Table 3.** Continued

<b>Turkey</b>	<p>Turkey Army Military Hospitals are missioned to admit and represent services to military staff and their families and only serve non-militant people in case of crises and special situations, like the COVID-19 pandemic. Therefore, they have no competition with other hospitals in attracting patients, but considering up-to-date technology and pioneering services and using superior specialists, they have full competition with health and medicine. Accordingly, Turkish military hospitals are famous for representing quality services. P4 expressed that the best physicians and the most advanced medical measures are employed in military hospitals. Hence, the hospital chairman has suitable authority in different fields in this regard by employing famous non-militant specialists, obtaining necessary licenses, buying up-to-date equipment, and obtaining licenses to mission people to supplementary and specialized courses.</p>
<b>South Korea</b>	<p>Armed forces hospitals are responsible for serving the staff, their families, and the retirees of the South Korean Armed Forces. Service provision has no costs. The contracting party with the insurer is the armed forces health and medicine command and all incomes are deposited from insurance to the main account of this command. Considering the lack of competition between military medical centers and civil hospitals, the health and medicine command has designed military validation prizes for the hospitals to create motivation. P16 expresses that military hospitals compete with other military centers to obtain the quality prize. Drug and medical necessities preparation and distribution centers in Korea are graded and specified. The health and medicine command introduced legal companies for cooperation with armed forces hospitals with its policies and guidelines and the hospitals are allowed to contract with these companies based on their choice and fulfill their needs. P6 maintained that the graded companies and the list of legal companies are announced to the hospitals.</p>
<b>South Africa</b>	<p>Considering the unsuitable condition of military buildings and hospitals in 2006, the health and medicine command contracted with non-militant hospitals to reconstruct military hospitals and update their equipment. By granting authorities to the chairmen of these hospitals to control the logistic command performance of army health and medicine, buying equipment and military hospitals renovation began. However, due to the lack of transparency in financial rules in concluding contracts and constructions and despite delegating credits after more than 15 years, military hospitals are not ready to be used yet. P12 emphasized that despite spending high costs during years of reconstruction, no progress has been made due to the lack of correct supervision. South African military hospitals serve both militant and non-militant people and make money. Considering the financial relationship, these hospitals are so willing to serve the wealthy non-militant people that they have made specific sections for them and the resultant income has deviated the hospitals from their main mission. Considering the logistic command and specific drug and medical equipment reservoirs, hospitals buy specifically from determined and exclusive centers. Therefore, the hospitals have no option in this regard to confront with perorations market. P15 maintained that financial corruption is so high that appointments in preparation posts are possible through heavy bribes in the healthcare field.</p>
<b>Pakistan</b>	<p>Being proud of the condition and level of military hospitals in this country, P5 maintained that the best quality in services representation is in military centers and civil centers are not comparable with them. Therefore, considering the separation between the military and country healthcare system in Pakistan, the exclusiveness of training centers, and provided services, and validating and assessing the performance of such centers (which some measures are practically taken in recent years in this field) by the Ministry of Health and Medicine, there is no competition whether in screening or staff employment. These relationships are more distinguished in the field of studies and research. On the confrontation with preparations and necessary consumables market, there is a big difference and any hospital fulfills its needs by coordination with its army regional command. Considering the lack of transparency, there is high corruption in this field and one of the reasons to support this non-concentration in preparing the needed items is also this lack of transparency and incorrect benefits. P7 cautiously said that if there were no financial corruption in this field, it would have been possible to highly serve the public.</p>
<b>China</b>	<p>Hospitals have met the needs of health and medicine staff based on norms and standards announced by the China Army health and medicine office. After obtaining the license to conclude a contract, they do it with the needed personnel and this force supply. Besides, delegations happen through the use of staff from military universities and military institutions. Hence, the hospitals have suitable authorities to employ their needed staff. P13 said that the military hospitals have different suitable authorities to employ their staff.</p> <p>Considering the different missions of the China Army and their provision of services to the public as well as militants and their families and the distribution and dispersion of these hospitals throughout the country, their budgets are supplied and they do not need to compete with non-militant hospitals in attracting patients. Moreover, suitable policies in confirming and issuing a license to use these hospitals cause relatively suitable distribution of these centers and prevent their aggregation in special regions. P14 emphasized that competition is meaningful when money-making is the target.</p>
<b>Iran</b>	<p>Armed Forces Medical Sciences University and health and medicine specialized staff training centers have trained a high percentage of the staff needed by the hospitals and provide armed forced hospitals with them. The shortcomings of human forces have to be fulfilled by employing the existing staff in the country's market. However, at this stage, a part of them is employed by army human force assistance and authorities have been granted to hospitals to employ staff by concluding contracts (e.g., one contractual personnel per one hypostatization bed), P18 maintains that the lack of equal method and instruction in this field causes changes for military hospitals.</p> <p>Regarding the confrontation with the preparations market, the authority to buy consumable necessities and equipment has been granted to the hospitals up to a defined level. This authority is controlled by agreement with the higher committee and field and audition supervision as well as main and capital equipment are bought focally and delivered to the hospitals. P17 maintained that we ourselves buy all our consumables.</p>

**4.3. Residual Claimant Dimension**

In countries, like South Korea, Pakistan, China, and Iran, where military hospitals have funds and are moneymakers, the hospitals have authority over their financial balance by making supervision committees and/or boards. Although these supervision mechanisms are transparent and relatively complete

in countries, like South Korea and China, they are criticized by the hospital chairmen in Iran and Pakistan. The authority of all financial balances with the highest ranking of military health and medicine is by the related country in other countries studied in this study. The details of the findings in this regard are presented in [Table 4](#).

**Table 4.** Findings about Residual Claimant Dimension

Country	Findings about Residual Claimant Dimension
Germany	Regulation of the current budget and sending it to the Ministry of Defence are among the authorities of the health and medicine command. All army hospitals use governmental credits. A specific amount of the income of the hospital is deposited to a core account at the level of health and medicine command. P3 maintained that the plans are precise and the path of the financial process in health and medicine is accurate and clear. Since the hospitals are managed by the army budget, there is no bankruptcy. Principally, there is no cash payment in governmental institutions of Germany and the paid sums have to be deposited only to the account.
Brazil	Since the turnover in Brazil's military hospitals is fully budgetary and there is no fund at hospitals, so hospital chairman has no authority over the financial balance resulting from innovations and/or the hospital economy since credit sum and the place of expenditure are completely specified. P1 expressed that credits are delegated in determined rows and they have to be spent there, too, any deviation from this path is criminal.
Italy	Regulation of the current budget and sending it to the Ministry of Defence are among the authorities of the health and medicine command. All army hospitals use governmental credits. A specific amount of the income of the hospital is deposited to a core account at the level of health and medicine command. Since the hospitals are managed by the army budget, there is no bankruptcy. This is obvious in the claims of P10: "bankruptcy of military hospitals? You're joking, it's impossible".
Turkey	There is no fund at Turkey military hospitals and no cost is paid by anyone. P6 claimed that the hospital chairman may use delegated credits when it is needed to fulfill necessary needs, even if it is not among the confirmed plans. Credits are distributed based on the first suggestion of hospital and health and medicine command allocation and the management of these credits is on the hospital chairman but he is only allowed to spend the credits only for confirmed goals and plans and in the case of residual credits, they are returned to the command core account and it is practical in this budgetary aspect. However, considering sending factors to insurer organization, management, and control of deductions and committed accounting are among the features of hospital accounting in Turkey Army.
South Korea	<b>Capital, current, and consumption costs:</b> capital costs that are spent on buying equipment and new and main technologies are spent on constructing or renovating medical places and spaces. These credits are allocated annually and from governmental credits and have to be spent on determined items and in the case of not spending cost at due time, it will be returned to the health and medicine command. Regarding the credits resulting from the hospital's income, P16 maintained that a contract is signed with the command to determine allocated plans and credits. Current and consumption costs are from 60% of delegation for hospitals income which is a cost in the form of hospitals' suggested and command's confirmed plans. Hospitals have to do innovative measures by managing these credits and from the place of residual measures, but assessment management and command monitoring control this process to prevent service quality from being influenced by the economy and measures.
South Africa	Considering credit supply through the governmental exclusive budget, the hospitals have to cost along their confirmed plans and around their exclusive cost. Considering credit problems and the descending process of these credits in recent years, the annual plans have not been achieved and the predicted targets are not reached. Moreover, serving the non-militant people and receiving costs directly from patients increases the inclination to such services and the resulting incomes cause crimes and wide embezzlement in this field due to the lack of cost agreements. P12 stated that the wrong policy of receiving money from non-militant patients caused different crimes in these centers.
Pakistan	P5 described that hospitals do not have a contract with insurance companies so any service represented to the non-militant patients is factored in. However, so many people try to insert the sum of factors higher. Services representation is mixed in hospitals. Both militants and their families are served and also non-militants may use hospital services. More than 70% of medical services coverage of Pakistani people is private and 60% of payments are from pocket. Considering the private insurance of the country, Pakistan Army hospitals receive all costs in cash when providing services to the non-militants and represent factor and do not receive any cost from referents like militants, their families, and people with governmental medical insurance and send related medical documents to the insurer. All deposits of insurance companies and also hospitals' cash measures are deposited to the core account of the army health and medicine command. Then a percentage of income is returned to the hospital to achieve unpre dicted targets and costs according to the class of hospital financial balance, the hospitals have good authority and are able to cost credits by regulating supporting documents. P7 said that we could save unnecessary costs with the help of the hospital's financial consultant and several procedural reformations and the whole sum was spent based on hospital considerations.
China	Considering the status of credit supply and resources allocation as public budget, the hospitals have specific confirmed authorities to code credits as well as the center's income from the place of knowledge-based studies and research plans. P13 stated that military medical research centers conclude suitable contracts with the industry section of the country and offer their products and have access to good incomes. Moreover, considering the representation of annual plans in the form of defined targets for each hospital, the hospital chairman is able to improve efficiency and enjoy the benefits of this performance. In each regional command, financial performance assessment, plan evaluation, and monitoring and control committee considers any deviation from plans and suggests reformation measure at due time and controls hospital performance.
Iran	Since the change of military hospitals' financial status in Iran and announcing the necessity of moneymaking of these hospitals and supplying a main part of their needs through their own incomes, financial management has turned into one of the important issues and management challenges of these hospitals. Until the time of preparing this report, financially integrated instruction of Iran Armed Forces military hospitals was being prepared. Hence, any force and complex of armed forces have measured financial balance and it has given suitable authority to hospitals that supervise the army by forming a plan control committee in each force. On the financial balance, P18 maintained that we have signed an agreement with health and medicine in recent years and we will coordinate our plans with the incomes we will obtain and go forward based on them.

**4.4. Accountability Dimension**

In countries, like Germany, Italy, and South Korea, where there are comprehensive electronic services in

health and medicine, the electronic file is the base of performance and representation of medical services for militant staff and their families. The beneficiaries

have a bilateral relationship with the military health system and it is possible to well investigate and control their performance. There is no limitation for the beneficiaries, except when national security is

concerned. In these countries, the method for the appointment of people and the path of responsibility are well determined and announced. Table 5 tabulates the details of the findings in this dimension.

**Table 5.** Accountability Dimension

Country	Accountability Dimension
Germany	The chairmen of Army hospitals in Germany are appointed by the health and medicine command and the hospital chairman appoints the managers and heads of different sections. Army health and medicine command has a unit for assessing and determining staff competency for appointment in different managerial posts and the least conditions are prepared and announced to grant organizational posts and anyone is responsible for higher rankings for tasks description and hierarchy. P3 stated that hierarchy and observing it, is among military principles and there is no difference between health and medicine and martial force.
Brazil	Brazil's Armed Forces consist of land, air, and marine forces which are coordinated by having independent command by the Brazil Armed Forces Joints Chief of Staff. However, Brazil's health and medicine does not follow this hierarchy and is independently managed by the Joints Chief of Staff. Therefore, the responsibility of the hospital chairman has been in a special hierarchy and the reports and orders are conducted based on the current method. Military hospitals have management with a hierarchal structure and the guidance and leadership of health staff are determined by the army commander and the authorities are delegated to the manager or technical and official chairman of Brazil's health and medicine office and the affairs are regularly technically, officially, and financially assessed by higher ranks. P2 emphasized that one of the reasons for the achievement of medical measures during wars and crises is the existence of an accurate and strict accountability system.
Italy	On the command hierarchy, the responsibility is based on a specific method and military-announced rules. P11 described that advanced electronic systems have created, facilitated, and completed reciprocal and bilateral communications. Italian Army health office informs the staff and covered people of their necessary information by having a computer base. Moreover, it has created interactional communications by having opinions and suggestions system around the clock.
Turkey	Considering the special conditions of armed forces hospitals, the beneficiaries of these centers have also special conditions based on the diversity and communications and responsibility to the. Turkey Army hospitals have a comprehensive communicational system to admit patients, make an appointment, and refer patients. The referred patients are informed of services and how to use them electronically and all services are represented based on request and recorded on the mentioned website, so it is possible to revise, control, and investigate complaints of referents. As well as the current communicational system, the complaints and requests system of referents has provided an opportunity to record and investigate the requests around the clock. P6 maintained that medical centers' equipment with an online communicational system improves the satisfaction of referents and also facilitates following up on patients. Moreover, managers and commanders are able to take reports moment by moment. Reposing to hierarchy is also possible considering regular and accidental reports. Armed forces health and medicine command has created a committee of different groups of agents who are responsible for validating and investigating the hospital's performance and are directly connected to hospital chairmen and monitor their performance and also record and report it.
South Korea	Considering the specific and defined military hierarchy, responsibility is very clear and suitable at South Korean military hospitals. South Korean Armed Forces health and medicine command is the highest ranking in South Korean Army health and medicine and hospital chairmen directly report to this official. Hospital delivering and taking are done by the hospital manager, which well clarifies the status and performance of managers. Considering the high level of computer technology in this country, the referents do all the primary rituals, like making an appointment, forming a file and reference path absently and so the references are done with the least waiting and traffic. The diversity of satisfaction measurement methods and following up on the status of treatment and recording all reference stages, admittance, service reception, and discharge and within treatment represent a real and suitable image of satisfaction and service quality to the manager. P9 emphasized that having the highest level of electronic technology in South Korea is somehow due to the pioneering military industry in this country.
South Africa	Full military hierarchy dominating the health and medicine command and the exclusive training centers of the South African Army Health and Medicine Command prevents effective communication with non-military sections. Regarding the medical and nursing staff, it reduces the specialized capabilities and skills of these staff and causes performance weakness and low satisfaction among patients and especially the militants. This dissatisfaction causes high credit costs in health and also changes with mild slope and setting up computer systems to obtain referents opinions and voices of referents are among measures to improve the satisfaction of beneficiaries. This was emphasized by P15 who maintained that despite strict rules and military accurate names, satisfaction is very low among staff or the referents.
Pakistan	Hierarchy is strict in Pakistan Army and the health and medicine field is not an exception and the responsibility and reports representation are accurately specified. Before 2006, the satisfaction of patients and services quality improvement had not been seriously considered but then by providing quality constant improvement plans, patient's voices and taking referents' opinions were prepared and executed and responsibility to referents and medical centers and releasing unclassified scientific findings are added to hospitals chairmen' authorities. P7 emphasized positive changes in quality improvement and stated that the entrance of specialized staff of health services management in the command committee caused changes in how to respond to referents.
China	Special military condition in the People's Republic of China in health and medicine is still flowing and it is necessary to observe hierarchy precisely and present reports. Considering the wideness of the army and the scope of the army missional region, the number of hospitals and their type omission has caused authority delegation which prevents from long order and report paths and causes speed and agility in responsibility path besides clear hierarchy and responsibility specific lines. Regions commands and delegating specific authorities to them are the approaches considered in this field. P13 stated that a short responsibility path as well as system agility improves satisfaction.
Iran	Regarding the responsibility towards the beneficiaries, P17 maintained that the formation of health offices at military hospitals which are directly responsible towards patients and their military relatives and investigate their problems increases the level of responsibility. Hierarchy is specific in Iran's Army Forces and responsibility is concentrated, with the development of an electronic healthcare system, it is possible to observe and monitor services for beneficiaries. However, according to the views of participants, a specific method of appointing chairmen and managers of military health and medicine needs improvement despite control and having consequences of encouragement and punishment for them due to the lack of a clear method that determines punishment and penalty of chairman and manager measures.



4.5. Social Functions Dimension

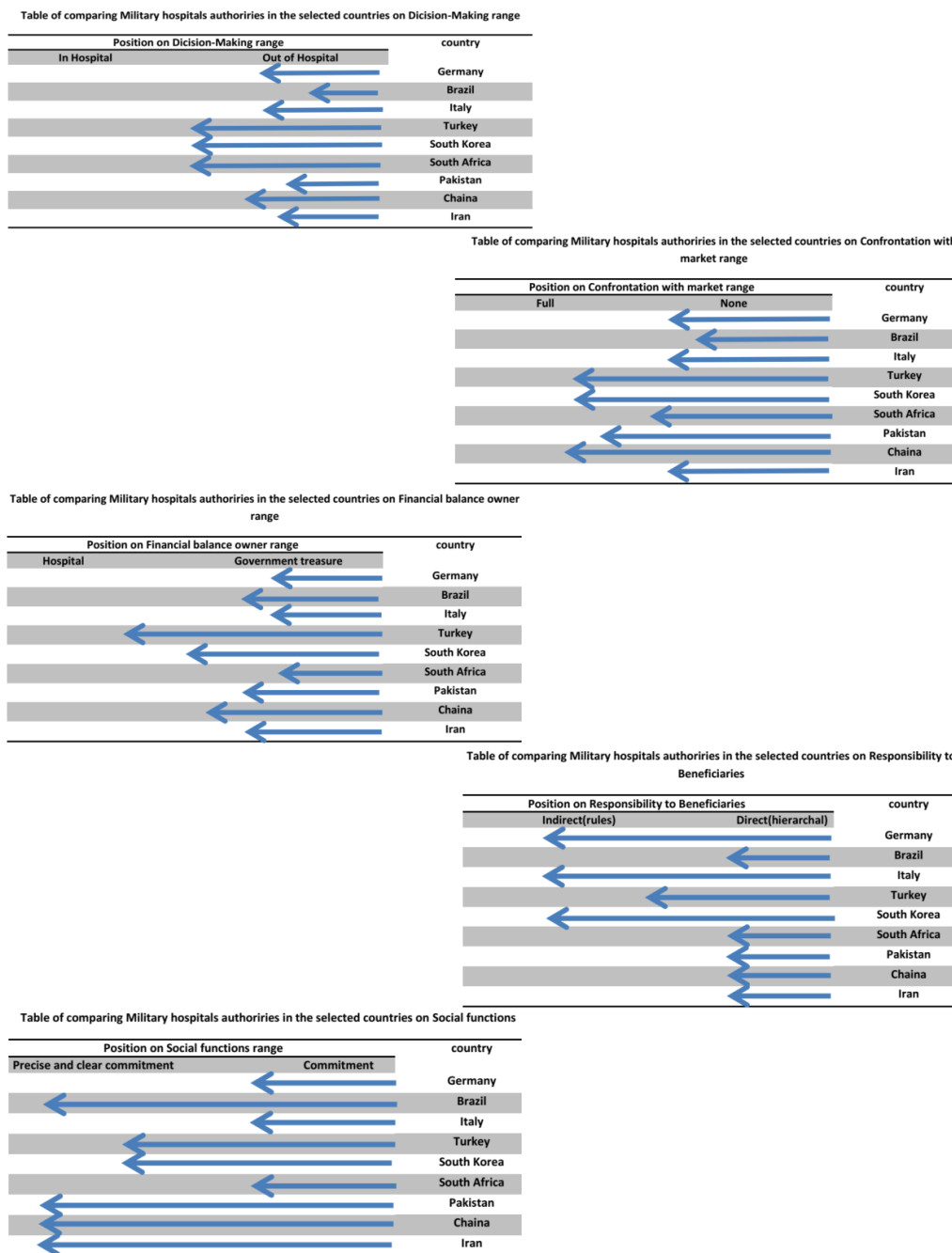
This dimension is not considered among military hospitals' tasks, but practically all countries in this study have a relatively active presence in social aids and functions. In a country like Germany where insurances are private, there is a specific mechanism to represent medical services for the poor from the central government and to compensate for the costs of these hospitals in this regard, credits appropriate with the announcement of centers and the confirmation of the related experts were confirmed and delegated in the annual budget of military hospitals. In Pakistan, around 70% of people do not have medical insurance and do not have suitable

conditions considering supplying medical costs, the government has considered sums as an aid to military hospitals to represent services to the non-military poor people. Committees consisting of the government and army supervise these credits and the hospitals have suitable authorities, although the lack of suitable supervision and transparency in the function of these credits has caused corruption in this field. In table 6, the details of the findings are given in this dimension.

The summary of the state of the organizational structure of military hospitals from the perspective of the five dimensions examined in the selected countries is shown in figure 1.

Table 6. Findings about Social Functions Dimension

Country	Findings about Social Functions Dimension
Germany	All social security services are represented according to the announced protocols which are usually the same. All insurances are private in Germany and there is no insurance coverage to help the poor. P4 maintained that philanthropic helps inside and outside the country is among our permanent missions. Helping the poor has a specific mechanism that after an investigation by the related origins in government, a sum is paid as a subsidiary.
Brazil	Army health system structure is socially responsible for supporting the non-militants when no public health service is available, during general crises, and for social civil measures. It works by requesting from higher-ranking civil officials and these measures are possible through military hospitals. P2 maintained that representing medical and drug services to the natives and the residents of the most unprivileged regions is among our permanent missions.
Italy	Military medical services may conclude a contract with the Ministry of Health to exchange medical specialists and for educational targets. All social security services are represented according to the announced protocols which are usually the same. The medical insurance system in Italy is governmental-private and all Italian citizens are covered by governmental medical insurance. Since medical services are free in Italy, army hospitals do not receive any sum from the non-militants for the services they provide. Helping the poor has a specific mechanism that after investigating the related origins in government, a sum is paid as a subsidy. "There is no one in Italy without insurance and anyone may enjoy services with any type of insurance," said P10 about social function.
Turkey	Although Turkish military hospitals are allowed to provide services for military staff and their families, people-aid services and representing free services to the non-militants in crises and pandemic situations play an important role in public health. The hospital chairman has specific and almost high authority in this regard. By representing suitable medical services, hospitals supply care for the public in regions without suitable medical services. P4 said that services during the COVID-19 pandemic are exactly an instance of this dimension.
South Africa	Military hospitals are auxiliary to the public health system by serving the non-militants and the hospitals are allowed to serve people, especially during crises and natural disasters according to the army's announced instructions. P12 described that establishing 100 ICU beds at the beginning of COVID-19 and freely admitting public patients are among the number one army hospitals' participation in the past year.
Pakistan	Hybrid military hospitals provide medical treatment, outpatient surgery, and hospitalization for army staff and also for non-militants. P5 said that the preventive health unit in these hospitals also supervises preventive aspects of healthcare. Supervising military personnel's health is through annual medical examinations. Researching and developing preventive health is a separate part of local projects in private hospitals or a part of military-wide studies in hybrid hospitals about the issues related to the health of soldiers. Pakistan Army is one of the biggest participants in the United Nations Peacekeeping Forces. Military hospitals have many customers of the non-militant population which serve them day and night in open spaces and also with interior facilities and these services are freely provided for the poor.
China	A military-civilian cooperation mechanism has been created in China to react to emergencies to guarantee on-time medical support in emergencies. Through time, the medical services of the People's Republic of China have been turned into a key component in national medical resources and play an important role in saving crises and public emergency medical services. Considering the definition of specific targets and plans in people-aid measures and the key role that hospitals play in crises and disasters, specific authorities and defined plans in this field delegated high authorities to the hospital's chairman in this field. P14 explained that a credit row has been determined to help the non-militants during the crises.
Iran	Provision of people-aid services is among the measures that the Armed Forces of Iran take in different ceremonies, such as military exercises and religious and national ceremonies. Considering the wideness of these forces, especially in boundary and unprivileged regions, these functions are highlighted and considered the honors of these forces. P17 stated that one of our permanent missions in military exercises is people aid which is called Emdad-e Mardom. Plan control committees in Iran Armed Forces regions command monitor and controls these measures and although these costs are not compensated by the Ministry of Health as the custodian of the country, the General Staff of the Armed Forces of IRI delegates authorities to compensate a part of these costs to the hospitals.



**Figure 1.** Summary of the state of the organizational structure of selected military hospitals.

## 5. Discussion

Some organizations release non-military health systems between countries. However, the research team could not find a global, systematic, and contemporary military healthcare system. Although there are many databases to compare national healthcare systems, only the military medical calendar found for military healthcare systems that there were considerable differences in the formation released in this calendar. Accordingly, due to the heterogeneity of information, it was not possible to compare information (18).

Given the data collected from the system and

organizational structure of military hospitals in the selected countries, there are two separate classifications. First, countries, like Germany, Italy, South Korea, and China with mission-oriented military hospitals without a moneymaking aspect. Second, there are countries, like Brazil, South Africa, Pakistan, Turkey, and Iran that have a moneymaking aspect to their mission-oriented military hospitals, which influences their structural dimensions.

Study findings in the decision-making dimension demonstrated that almost all studied countries execute decision-making right in a concentrated and hierarchal form. Concentration and discipline were more present in Brazil and Pakistan and less in

Turkey, South Africa, and South Korea which is due to the necessity of having speed in decision-making and unity in commands in military units.

Authority in confrontation with market dimension in different countries shows the different performance of countries in this dimension. There are many authorities in confrontation with the market for hospitals in countries, like Turkey, China, and South Korea, while there is no authority in this dimension in Germany, Italy, and Brazil since there is no competition in the market. It should be mentioned that in a country like Iran, the condition is almost the same as in Germany, Italy, and Brazil.

Regarding the financial balance authority on the predicted range of studied countries, except Turkey with more authority given to the hospitals, compared to other studied countries shows the concentration and authority of this credit by the head of this pyramid in the related organization. The place of studied countries on the range of responsibilities of the beneficiaries leads to two different status. Accordingly, there are countries with direct and hierarchal responsibilities, like Brazil, South Africa, Pakistan, China, and Iran versus countries with indirect responsibilities, like Germany, Italy, South Korea, and Turkey. This difference is due to the different military doctrines of different countries.

The position of studied countries in terms of the social functions of authority shows different states. In countries, like Germany and Italy, there is no space for social functions of military hospitals without unpredicted financial supply due to special conditions of the public health system and the comprehensiveness of medical insurance. In contrast, in China, Iran, and Pakistan, despite their largeness, unprivileged regions, poor populations living in border areas, and inefficient public health system (Pakistan), which increase the necessity to do social functions in military hospitals, no specific annual credit has been allocated in terms of financial supply.

### 5.1. Limitations

The lack of the required data in databases of military health systems and centers of different countries, lack of access to military health databases through IRI due to the existing crude sanctions, lack of responsibility of countries, and the disinclination of different countries' military health experts to participate in the study, the absence of IRI dependents in all countries, complicated, and long path of coordination and data collection through armed forces are a part of the limitations of the current study. Moreover, the experts from nine countries and the study environment which includes the organizational structures of military hospitals have reduced the generalizability of findings to other non-military centers. Usage of faculty members of AJA University of Medical Sciences and cooperation with IRI Army Information Assistance reduced the limitations.

## 6. Conclusion

Given that different military health systems prevail in different countries and these systems have not been studied by the media and researchers and the lack of a common language in such systems, the present study is used as an introduction to use the experiences and new knowledge available in the global military health system.

Familiarity with different military systems and usage of their strengths and learning from their weaknesses needs constant study and access to up-to-date and explanatory studies (19). Therefore, any study and research in this field will be a valuable treasure to improve the military health system.

### 6.1. Ethical Considerations

In this study, the necessary permissions were obtained from the Iran University of Medical Sciences and the study was registered with the number 18371. The privacy of the participants and their psychological and social needs were respected. The participants were assured of the confidentiality of their answers and the release of information was in full compliance with the regulations of IRIAF.

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## Footnotes

**Conflicts of Interest:** The authors declare that they have no conflicts of interest.

**Authors' Contributions:** All authors contributed equally to this study.

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**Appendix 1: Questionnaire based on the Perker-Harding model  
Questionnaire questions to collect structural information on  
armed forces hospitals In the military health system of the  
countries of the world**

- 1-Are there military hospitals or are all patients, both military and general public, treated in public or private hospitals?
- 2-If there are no military hospitals, do public hospitals charge the military for treatment or medicine? What is the schedule for non-emergency diseases for military personnel and their families?
- 3-If there are independent military hospitals from public hospitals (government or private), what is the hierarchy of these hospitals and under which organization are they managed?
- 4- In terms of structure, do all military hospitals have the same dimensions or do they have different sizes?
- 5-How are hospitals managed? Do they have a board of directors or are they managed by an appointed president?
- 6-What are the limits of authority of military hospital managers in the following areas:
  - **The right to make strategic decisions** (how are the goals, programs, and activities of the hospital formulated and approved):
  - **The right to make decisions in human resources management:** (attracting and maintaining human resources, and how are all the possibilities related to human resources management at the moment, incentives and punishments, making decisions about continuing education, sending on missions, etc.)
  - **The right to make decisions in financial management:** (the authority of the head of the hospital in financial management, instructions, and its limits, whether the hospital is based on its own income or whether it is managed through transfer credits, if it is income-generating, does it have contracts with different insurances or does it only have a contract with the insurance that supports the armed forces, does the hospital have a fund, which means that amounts are received in cash from the patients or are all the payments made by the insurances to the hospital and the

patients do not make any payment?)

- **The right to make decisions in the management of physical resources:** (how are the construction measures, including the reconstruction of the building and the construction of new places? Can Rasa Hospital be involved in these cases or are other organizations responsible for this work, how are the payments and credit provisions for this area, should permits be obtained from national bodies, such as the Ministry of Health or municipalities for civil construction, and how?)

- **Dealing with the product market:** (Do military hospitals provide services only to military patients or do they have free admission for the public and do they also help the Ministry of Health and Public Health? What is the contract status of military hospitals with insurance companies? Do the insurance companies pay or is a percentage charged as a deductible? If the military hospital also provides services to civilian patients, how will they be charged?)

- **Dealing with the supply and raw materials market:** (How is the hospital's supply of consumables? Does the hospital purchase its own consumables, including various administrative, edible, sanitary, and disinfectant items, or are purchases made and distributed centrally? What about the purchase of capital equipment? Does the hospital have the authority to purchase the required equipment? to what extent are the limits of the hospital's authority? Are exclusive companies responsible for the provision of military hospitals or is there another mechanism established?)

- **Owner of financial balance:** What is the route of revenues and expenses? By which organization and how is the hospital's financial performance monitored? Does the hospital spend its revenues directly or should the revenues go through a path and then be referred to the hospital for expenses?)

- **Social functions of the hospital:** (Do military hospitals have social participation? Do they cooperate in public health plans, social work, etc.?)