(e- ISSN 3050-8878) (p- ISSN 3050-9351)

MEASURING THE EFFIC IENCY AND QUALITY OF HEALTH SERVICES MANAGEMENT PROVIDED IN GOVERNMENT HOSPITALS IN THE KINGDOM OF SAUDI ARABIA

Dr.RIHAN MOHAMED ATTIA ABO EL GOUD[1*]

[*1]*Associate Professor at the Department of Business Administration college of business,university of jeddah*

Dr. RASHA M. BOKHARI[2*]

[*2]*Assistant professor at the Department of Business Administration college of business,university of jeddah*

***Corresponding Author Dr.Rihan Mohamed Attia Abo El Goud**

SUMMARY

During the current period, the health services sector at the Ministry of Health in the Kingdom of Saudi arabia has witnessed an unprecedented boom in the field of providing high-quality health services to achieve comprehensive health coverage for all members of society in accordance with the Kingdom's Vision 2030 of the necessity of providing a distinguished service that enjoys the acceptance and satisfaction of the Saudi citizen and receives acceptance from all members of society. Given the importance of the healthcare service provided, its quality, and its impact on patients to maintain the public health of all community members, it has become necessary to measure the quality and efficiency of the healthcare services provided in hospitals and government health centers in the Kingdom. This is to ensure the quality of the service provided to maintain the health of patients, as well as to identify the Challanges that faces management to achieve distinguished service with high quality considering the strong competition between the public and private healthcare sectors in this field. The results indicated that the Jeddah health region ranked third in terms of the volume of available health resources, with a total of approximately 49 hospitals and 8,200 beds under the health sector in Jeddah, distributed among the Ministry of Health. The capacity efficiency ratio for the health regions in the Kingdom reached approximately 0.971, according to the nature of the return on capacity. This means that some health regions need low percentage only to achieve optimal capacity efficiency in their hospitals and can reach it by increasing their available health resources by approximately 2.9%. By estimating the average surplus of inputs for the hospitals in the health regions, it becomes clear that there are surpluses in the utilized inputs (doctors, beds, nursing staff) in the hospitals of these health regions that can be reduced without affecting the service performance level in those hospitals. Additionally, there is a management challanges in some hospitals. These hospitals may need only to redistribute their resources to other areas to ensure efficient management of their available health resources by the Ministry of Health in the Kingdom. As shown of the hospitals in the Most health regions, the management responsible for them is making optimal use of their resources, achieving efficiency for these health facilities. The other regions should follow their example in managing their resources. From these results of the study showed a tremendous development in the field of health services, which achieves the goals of the Kingdom of Saudi Arabia's Vision 2030. It qualifies the health system in the Kingdom of Saudi Arabia to enter strongly into the medical tourism system, in its private and public sectors. In this way, it will achieve the vision from the health and economic aspects.

Keywords: *Efficiency, Quality, Health Services, Hospitals*

DOI:10.5281/zenodo.14955784 **Manuscript # 274**

The Introduction:
The commitment to universal health coverage is not a dream for the future; it is already a reality in many countries around the world. This is what the Sustainable Development Goals for 2030 have confirmed, which means that all individuals and communities around the world must have access to the high-quality health services they need, as it pertains to human health. The human element is the most asset of any society, as it is the main component of any national economy.(10).

Providing high-quality healthcare services is essential and important for universal health coverage, as the effective coverage of health services depends on how progress in universal health coverage is measured. Additionally, providing healthcare services is the primary role of quality. There is increasing recognition that optimal healthcare cannot be delivered merely by ensuring infrastructure, medical supplies, and healthcare providers together. Improving healthcare requires a focus on the quality of health services, as the quality of care is the degree to which health services increase the likelihood of achieving desired health outcomes for individuals and populations.(10). Health services are considered one of the most prominent and important services that individuals in society seek, as they are in dire need of them due to the organic and psychological diseases they are exposed to and suffer from in contemporary times. In turn, this urgent need for such services has necessitated increased attention from health institutions and organizations, both locally and internationally. This has helped them work on developing and improving these vital services, ensuring that the service provided to the patient meets a certain level of quality and a high degree of proficiency.

The strategy of the Ministry of Health in the Kingdom has aimed to adopt modern approaches in providing health services and care, which are based on the principle that the patient is the center of the health system and not just a part of it. This means that the entire health services system revolves around meeting health needs at the right time and place, starting from primary healthcare and ending with specialized health services that meet the patient's needs and requirements, ensuring the preservation of their dignity. It also achieves integrated and comprehensive healthcare as a method of service delivery, which is one of the most important goals included in the Kingdom's Vision 2030.(2).

Section One: Study Methodology and Its Problem
First: The research problem:
As a result of the rapid and unprecedented developments in the field of healthcare services provided worldwide, and particularly in the Kingdom, the health services sector at the Ministry of Health in the Kingdom has witnessed an unprecedented boom and rapid growth in delivering high-quality healthcare services. This aims to achieve comprehensive health coverage for all members of society in accordance with the Kingdom's Vision and the Sustainable Development Goals 2030. It is essential to provide distinguished services that are accepted and appreciated by Saudi citizens and are well-received by all members of society within the country's borders, whether the services are provided to the citizens or residents within the Kingdom, This development has been accompanied by a tangible awareness and acquired trust resulting from meeting the needs of healthcare service recipients, due to the good practices undertaken by the Kingdom in this field, such as increasing health awareness programs through media and social media, educating about the necessity of periodic check-ups and follow-ups through health service centers, hospitals, and health units spread across the Kingdom, which provide all health services and medical care with a high level of efficiency in managing health services to meet the needs and demands of patients with high quality for all members of society. Given the importance and quality of the healthcare service provided and its impact on patients to maintain the public health of all community members, it has become necessary to measure the quality and efficiency of the healthcare services provided in hospitals and government health centers in the Kingdom to maintain the quality of the service provided to preserve the health of patients. Additionally, it is important to identify the negatives and problems that hinder management from achieving distinguished service with high quality in light of the strong competition between the public and private healthcare sectors in this field. Which in turn affects the achievement of comprehensive and effective coverage of health services with high efficiency and quality.

Importance of the research:
The importance of the research lies in the fact that the topic of the quality of healthcare services provided is a modern subject. This research paper may serve as a reference for future studies, in addition to shedding light on the nature of the available healthcare services and their quality in the Kingdom, and whether they are provided in a manner that satisfies the beneficiaries of the service. Especially since these institutions that provide the service have become prominent in economic life. Currently, the activities of these institutions are no longer limited to providing therapeutic services only, but have extended far beyond that to include services related to preventive awareness of diseases, whether they are immune, infectious, psychological, neurological, cancerous, and other various diseases, In addition to participating in all awareness programs, national campaigns, scientific

conferences, and seminars on all aspects related to the health and safety of community members, and working to provide high-quality healthcare that meets individuals' needs in line with achieving progress towards comprehensive coverage of high-quality health services that fulfill the aspirations of the Kingdom. Comprehensive health coverage is also an important and noble goal, enshrined in the Sustainable Development Goals, aiming to provide health security and access to basic healthcare services comprehensively without causing barriers for community members, which allows for the provision of effective, safe, and needs-aligned care for service beneficiaries.

Research objectives:
The study primarily aims to identify the health services provided in the health sector in general in the Kingdom, the quality and efficiency of the health services provided, and the extent to which employees adhere to the standards of achieving efficiency in delivering distinguished health services in the government hospitals in the Kingdom. This will be done through studying the following sub-objectives:
First: Studying the features of the current health situation in the Kingdom.
Second: Measuring the efficiency of management in utilizing available health resources in the health regions of the Kingdom.
Third: Measuring the quality of medical and therapeutic services provided by medical institutions in the research sample in Jeddah hospitals from the beneficiaries' perspective.
Fourth: The probabilistic distribution of the problems and obstacles that affect the availability of health services from the beneficiaries' perspective in the research sample.

Research methodology, approach, and data sources:
To address the current study and analyze its dimensions, both the descriptive method was relied upon by utilizing various experiments and studies that dealt with this topic to understand the health services provided by the Ministry of Health sector in the Kingdom and the efficiency of hospital management in delivering distinguished services that contribute to improving the quality of the provided health services.

Quantitative method: using both:
1- Simple regression method over time and estimating the growth rate, standard deviation, using the SPSS program, and some ratios and arithmetic means.
2- Estimating the efficiency of management in utilizing available health resources in the health regions of the Kingdom using the Data Envelopment Analysis (DEA) method. The estimation of the technical efficiency of hospitals relies on using the Data Envelopment Analysis (DEA) method to measure technical or technological efficiency, which depends on using linear programming to create an envelope or field that contains the data. This allows for estimating the technical efficiency of the hospital according to the relationship of the combination of health resources used by the hospital, which is assumed to be similar among hospitals in the health regions spread across the Kingdom under all circumstances. To achieve this purpose, a statistical package known as DEAP is available.(12).
3- Measuring the quality of health services in the research sample hospitals according to the five-point Likert scale, which contains five gradated items (strongly agree, agree, somewhat agree, disagree, strongly disagree) and the quality measurement standards for health services represented by tangibility, assurance, responsiveness, empathy, technical quality, reliability, and medical quality management.
4- The Binomial Distribution was used to estimate the probability of the existence of problems or obstacles that affect the quality of health services in the sample hospitals with a Confidence Interval at a 95% confidence level using the following formula (13):

$$P = \hat{p} \pm \left[Z_{\alpha/2} \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} \right]$$

Where: P is the probability of the problem existing, p̂ is the proportion of the problem existing, n is the sample size, Z_(α/2) is the confidence coefficient.

5- The applied method: Using a prepared questionnaire form for this purpose, conducted through personal interviews with patients from 3 hospitals in the Jeddah area to assess the level of service provided.
6- The research relied on data published by the Ministry of Health, the annual statistical book, and journals published from various sources, in addition to primary data prepared through the questionnaire, and the internet network for websites related to the study topic.

Research hypotheses:
The study is based on the following hypothesis:

• The First Hypothesis 1: There is no statistically significant relationship between quality standards (tangibility, assurance, and guarantee, responsiveness, interaction, technical quality, reliability, medical quality management) in the research sample and the variables of gender, educational level, and social status at a significance level of 0.05.
• The second hypothesis does not exist: There are no significant statistical differences between the healthcare services provided by the hospitals in the research sample and the quality standards at a significance level of 0.05.

Section Two: Research Scope and Study Population:
Research Scope: The study pertains to the demand for healthcare services provided and their quality for patients visiting three hospitals in the city of Jeddah. It aims to identify the efficiency of the healthcare services provided, their quality, and their impact on the level of service and satisfaction achieved from the behavior of patients and visitors towards that service. Additionally, it seeks to identify the problems and obstacles that may affect the provision of healthcare services in a complete and high-quality manner.
Study population: The study population consists of three government hospitals located in the city of Jeddah, where the research was conducted, and the researchers resided. These hospitals are King Saud Hospital, King Abdulaziz Hospital, and King Fahd Hospital.
Research Sample: The study relied on taking a random sample of 180 patients, visitors, and beneficiaries of the healthcare service who met the evaluation criteria followed by the researchers, with 60 research forms for beneficiaries and patients from each hospital.

SectionThree: Research Concepts:
First: Concepts related to healthcare
Health services: They are defined as activities or health benefits provided by hospitals to patients for a certain amount, using auxiliary goods to deliver the service, and the ownership of these goods does not transfer to the service beneficiary. They are all the services that aim to promote, preserve, and restore health. It includes all personal and population-based health services. Health service is defined as that which is provided to beneficiaries and aims to satisfy the needs and desires of the final consumer, as it is not linked to the sale of another product or service.(8).
It is defined as tangible outputs since these institutions provide their services to the community before the need arises.(5). Or it is known as all the services provided to satisfy the health needs of those seeking health services.(8).

Secondly: Concepts related to the quality of healthcare services
Quality: A complex and multifaceted concept, it requires the design of separate intervention sets where the quality of health service reflects the responsibility of the health institution as a service provider towards patients. This definition refers to the social responsibility that healthcare institutions have towards society in general.
The World Health Organization defined the quality of health service as the compliance with standards and correct performance, in a safe manner acceptable to the community, and at a reasonable and acceptable cost, so that it leads to a change and impact on the rate of diseases, mortality, disability, and malnutrition. (2006 WHO,). Quality of health service is also defined as "the level of performance that the patient perceives in the service provided to them compared to what they expected." In this definition, there is a clear reference to the patient benefiting from the healthcare service and to their role in evaluating the level of services provided to them.
The American Joint Commission on Healthcare Organizations defined it as the degree of adherence to current and agreed-upon standards to help determine a good level of practice and understand the expected outcomes of the service. In other words, quality is the degree of achieving desired outcomes and reducing undesirable outcomes within the knowledge state over a specific period (12).
Quality of care is briefly defined as: utilizing available resources to provide the best care for users. High-quality healthcare services include appropriate care, timely care, and responsiveness to the needs and preferences of service users, along with minimizing harm or resource wastage.(9).

Principles of Total Quality Management: The most important principles of total quality management are focused on:
- **Principle of Top Management Support**: It is the official support and is important for achieving success.
- **Principle of Continuous Quality Improvement**: It is a development of the dimensions of the administrative process, ensuring continuous improvement and helping to reduce

Mistakes, and increasing productivity.
- **Principle of customer focus:** It is the organization's focus on its customers and the attempt to gain their satisfaction.

- **Principle of employee focus**: Attention to all employees from the beginning of their work to training and promotion.
-**Principle of analysis and measurement**: This means testing the effectiveness and efficiency that align with the organization's conditions and ultimately aim to:
• Identifying the causes of the problem and working on solving it(1).
Dimensions of service quality: There are a set of essential dimensions that government hospitals must possess, the most important of which are as follows:
- Compliance with specifications: where the patient expects the healthcare service to be good and of high performance.
- Ease of access to the provided healthcare service, and that the healthcare service is not hindered by any obstacles, is available, close, and has means of communication.
- Alignment with harmony is the process of reconciling the performance achieved by the healthcare service with the purpose for which it was originally designed.
-Support, which is the amount of attention that the healthcare organization gives to the level of quality provided in the healthcare service for the patient.
-The psychological impact, as many patients are evaluated for healthcare services based on the psychological effect that can be created in them.

Section Four: Previous Studies
The study by Badi S. Robush (2011) targeted the quality of health services, focusing on the characteristics, dimensions, and indicators of certain aspects related to health services and their quality, in terms of concept and characteristics, as well as importance and influencing factors. It emphasized the dimensions of health service quality and the indicators that health institution managers can adopt as quantitative standards to determine and control the quality level of the vital services they produce and provide, which are of utmost importance to all members of society. The study indicated that attention to the quality of health services is considered a priority due to its significant importance in the lives of individuals and communities. Moreover, the focus on the quality of healthcare services coincides with the emphasis on the quality of products in the industrial sector. In fact, the same principles and quality standards applied in production institutions are implemented in healthcare institutions, especially concerning the continuous quality improvement program. In the healthcare field, the continuous quality improvement program is of great importance because it is primarily based on the recipient of health services, namely the patient. In addition, the process of measuring the quality level of the services provided is a continuous process, and its effectiveness depends on accurate and up-to-date facts and information, rather than mere opinions or expectations. The success of this process requires the commitment of management and all employees in this sector to a quality policy with clear axes and defined goals and tasks, as its central aim is to develop and enhance health performance in a way that ensures the satisfaction of both the beneficiary and the service provider, in addition to improving the overall health level and its positive impact on the quality of life of individuals and society as a whole.

Abbas Study (2014): The study addressed the measurement of the quality of healthcare services in government hospitals, an applied study on government hospitals in the city of Taiz, Yemen, from the beneficiaries' perspective, using basic criteria (tangibility, assurance and guarantee, technical quality, responsiveness, interaction, reliability, medical quality management) and their relationship with the health procedures followed in government hospitals in the city of Taiz. The research relied on formulating main hypotheses, which are (there are no significant statistical differences between the quality of the provided healthcare services and the quality standards). The research also relied on a three-point Likert scale containing five gradated items (strongly agree - agree - somewhat agree - disagree - strongly disagree) and the criteria related to measuring quality represented by (tangibility, assurance and guarantee, technical quality, responsiveness, interaction, reliability, medical quality management), He reached results that provided below-average support for his hypotheses, and the researcher offered recommendations related to the health quality of the hospitals under study in order to elevate the service provided that every member of the community needs.(6)

The study by Belmarad Dasi (2020) addressed total quality management in health institutions by understanding how to manage total quality and its application to health institutions, along with examples of its implementation in health institutions in some countries such as Arkansas, Saudi Arabia, the United States, and Algeria. The study revealed that the philosophy of quality has become important in many health institutions as it adds another dimension, focusing on meeting the needs of the patient and satisfying their declared and undeclared desires and expectations. Additionally, it creates an integrative state in the organizational structure between activities and functions, relying on a unified team to start working with minimal errors and achieving maximum gain at the lowest costs.(5)

The study by Radwan (2021) aimed to measure the impact of patient interaction skills (verbal communication, non-verbal communication, listening, persuasion) on the quality of healthcare services (responsiveness, reliability, empathy, physical aspects, assurance). The study was conducted on a sample of 264 patients visiting the hospitals of Menoufia University. Field data were collected using a questionnaire, and the reliability and validity of the scales used in the study were confirmed through confirmatory factor analysis and Cronbach's alpha. The study concluded that there is a significant positive impact of all patient interaction skills, except for non-verbal communication, on the quality of healthcare services in the hospitals under study. The ranking of these skills in terms of impact was as follows: verbal communication, then listening, and finally persuasion skills. The study results also indicated a significant positive impact of the dimensions of patient interaction skills (verbal communication and persuasion) on the responsiveness dimension as one of the dimensions of healthcare service quality. The results indicated that all dimensions of patient interaction skills (except non-verbal communication) have a significant positive impact on the reliability and empathy dimensions of healthcare service quality. (8)

Research Results and discussion:

First: Studying the current health situation in the Kingdom

1-Geographical distribution of health resources in the health sector in the Kingdom in 2022: - It is evident from Table (1) that the health region in Riyadh ranked first in terms of the volume of available health resources, with a total of approximately 110 hospitals and 20,500 beds distributed among the Ministry of Health, other government entities, and the private sector, with 49, 16, and 45 hospitals respectively, representing about 22.3% of the total number of hospitals. The number of beds in each sector is 8,700, 5,700, and 6,020 respectively, representing about 26.1% of the total number of beds in the health sector in the Kingdom.

-The Eastern Health Region ranked second in terms of the volume of available health resources, with a total of 52 hospitals and 8,600 beds affiliated with the health sector in the Eastern Region. These are distributed among the Ministry of Health, other government entities, and the private sector.

-Other government entities, the private sector with 21, 8, and 23 hospitals respectively, represent about 10.5% of the total number of hospitals, and approximately 2.9, 2, and 3.1 thousand beds for each, respectively, representing about 11% of the total number of beds in the healthcare sector in the Kingdom.

-The health region in Jeddah ranked third in terms of the volume of available health resources, with a total of approximately 49 hospitals and 8,200 beds distributed among the Ministry of Health, other government entities, and the private sector, with 13, 4, and 32 hospitals respectively, representing about 9.9% of the total number of hospitals. They have approximately 3,100, 2,000, and 3,100 beds respectively, representing about 10.5% of the total number of beds in the health sector in the Kingdom. It was followed by:

-The Aseer Health Region ranks fourth in terms of the volume of available health resources, with a total of hospitals and beds. In Jeddah, there are approximately 33 hospitals with 4.2 thousand beds distributed among the Ministry of Health, other government entities, and the private sector, with 20, 3, and 310 hospitals respectively, representing about 6.7% of the total number of hospitals. They have approximately 2.3, 0.8, and 1.1 thousand beds respectively, representing about 5.4% of the total number of beds in the health sector in the Kingdom.

-The health region of Madinah ranked fifth in terms of the volume of available health resources, with a total of approximately 32 hospitals and 5,010 beds affiliated with the health sector in Madinah. These are distributed among the Ministry of Health, other government entities, and the private sector, with 18, 4, and 10 hospitals respectively, representing about 6.5% of the total number of hospitals. The number of beds is approximately 3,100, 900, and 980 for each category respectively, representing about 6.4% of the total number of beds in the health sector in the Kingdom. Meanwhile, the Al-Qunfudhah and Al-Qurayyat regions ranked last with 5 and 4 hospitals affiliated with the Ministry of Health, representing about 1% and 0.8% of the total number of hospitals in the Kingdom, respectively. They had 400 and 490 beds, representing about 0.5% and 0.6% of the total number of beds in the Kingdom's healthcare sector, respectively.

Table No. (1): The geographical distribution and relative importance of health resources for hospitals and beds in the health sectors of the Kingdom by health region 2022.

%	%	Total		The private sector		Other government entities		Ministry of Health		The health district
The Beds from the total	Hospitals from the total	The number of beds	Number of hospitals	The number of beds	Number of hospitals	The number of beds	Number of hospitals	The number of beds	Number of hospitals	
26.1	22.3	20,457	110	6,024	45	5,726	16	8,707	49	Riyadh
4.6	3.7	3,610	18	723	7	193	1	2,694	10	Holy Makkah
10.5	9.9	8,244	49	3,129	32	2,024	4	3,091	13	Jeddah
5.2	5.1	4,053	25	372	4	1,041	5	2,640	16	Taif
6.4	6.5	5,013	32	980	10	915	4	3,118	18	Madinah
4.7	5.1	3,710	25	345	4	456	2	2,909	19	Al Qassim
11.0	10.5	8,591	52	3,126	23	2,009	8	3,456	21	Al-Sharqia
4.2	3.4	3,306	17	923	5	328	2	2,055	10	Al-Ahsa
1.9	2.0	1,469	10	150	2	319	1	1,000	7	Hafar Al Batin
5.4	6.7	4,237	33	1,124	10	783	3	2,330	20	Aseer
1.2	1.6	920	8	0	0	0	0	920	8	Bisha
3.7	3.0	2,884	15	86	1	878	2	1,920	12	Tabuk
2.8	3.4	2,211	17	271	3	0	0	1,940	14	Hail
1.9	2.2	1,460	11	0	0	0	0	1,460	11	Northern Borders
3.5	5.1	2,753	25	250	3	88	1	2,415	21	Jazan
2.5	3.2	1,947	16	250	3	397	3	1,300	10	Najran
1.7	2.2	1,325	11	30	1	0	0	1,295	10	Al Bahah
1.7	2.0	1,360	10	30	1	0	0	1,330	9	Al Jowf
0.6	0.8	490	4	0	0	0	0	490	4	Al Qurayyat
0.5	1.0	400	5	0	0	0	0	400	5	Al Qunfudhah
100.0	100.0	78,440	493	17,813	154	15,157	52	45,470	287	Total

Source: Ministry of Health, Vision 2030, Annual Statistical Book, 2022.

2- The geographical distribution of available health resources in Ministry of Health hospitals in the Kingdom in 2022: The geographical distribution of available health resources in Ministry of Health hospitals in the Kingdom is as follows in Table (2):

- Number of beds: The total number of beds in the Kingdom in 2022 reached 45.47 thousand beds distributed across the health regions of the Kingdom. The Riyadh region ranked first in terms of the number of beds available in Ministry of Health hospitals, with a total of 8.7 thousand beds, representing 19.1% of the total number of beds in the Kingdom. It was followed by the Eastern region, Jeddah, Qassim, the Holy Capital, and Taif, with numbers reaching 3.45, 3.1, 2.91, 2.7, and 2.64 thousand beds, representing approximately 7.6%, 6.8%, 6.4%, 5.9%, and 5.8% of the total number of beds in the Kingdom, respectively. Meanwhile, the areas of Al-Qurayyat and Al-Qunfudhah had the lowest number of hospital beds, with 490 and 400 beds respectively, representing about 1% and 0.9% of the total number of beds in the Kingdom. This is due to the low population density in those areas.
- Number of doctors: The total number of doctors in the Kingdom in 2022 reached 48.65 thousand, distributed across the health regions of the Kingdom. The Riyadh region ranked first in terms of the number of doctors available in Ministry of Health hospitals, with a total of 101 thousand doctors, representing 20.7% of the total number of doctors in the Kingdom. This was followed by the Eastern region, Jeddah, the Holy Capital, Medina, Qassim, and Asir, with numbers reaching 4.39, 4.19, 3.71, 3.32, 2.9, and 2.41 thousand doctors, representing about 9%, 8.6%, 7.6%, 6.8%, 6%, and 5% of the total number of doctors in the Kingdom, respectively. 8.6%, 7.6%, 6.8%, 6%, and 5% of the total number of doctors in the Kingdom, while the regions of Al-Qunfudhah and Al-Qurayyat had the lowest number of doctors, with 584 and 430 doctors respectively, representing about 1.2% and 0.9% of the total number of doctors in the Kingdom. This is due to the low population density in those areas.
- Doctors per 100 beds: The distribution of doctors per 100 beds in the Ministry of Health hospitals in the Al-Qunfudhah region ranked first in terms of doctor distribution with 146 doctors. This was followed by the regions of Makkah, Jeddah, Eastern Province, Riyadh, Najran, Madinah, Asir, and Al-Ahsa with 138, 136, 127, 116, 110, 106, 103, and 102 doctors per 100 beds, respectively. Meanwhile, the regions of Jazan, Bisha, Tabuk, Al-Qurayyat, Taif, Hafr Al-Batin, and the Northern Borders ranked last in terms of doctor distribution per 100 beds with 93, 93, 90, 88, 85, 83, and 80 doctors per 100 beds, respectively.
- Nursing Numbers: The total number of nurses in the Kingdom reached 84.72 thousand nurses distributed across the health regions of the Kingdom. The Riyadh region ranked first in terms of the number of nurses available in the Ministry of Health hospitals, with a total of 16.96 thousand nurses, representing 20.0% of the total number of nurses in the Kingdom. This was followed by the Eastern region, Medina, Jeddah, the Holy Capital, and Qassim, with numbers reaching 7.57, 6.39, 5.83, 5.56, and 5.23 thousand nurses, representing approximately 8.9%, 7.5%, 6.9%, 6.6%, and 6.2% of the total number of nurses in the Kingdom. Meanwhile, the regions of Al-Qurayyat and Al-Qunfudhah had the lowest number of nurses, with 1,138 and 763 nurses, representing approximately 1.3% and 0.9% of the total number of nurses in the Kingdom.

Table No. (2): The geographical distribution of available health resources in the Ministry of Health hospitals in the Kingdom in 2022

Nursin For every 100 doctors	Nursin For every 100 beds	% From the total	Nursin Including midwives	Doctors per hundred beds	% From the total	Number of doctors	% Total	Number of beds	The health district
168	195	20.0	16959	116	20.7	10084	19.1	8707	Riyadh
150	206	6.6	5561	138	7.6	3714	5.9	2694	Holy Makkah
139	188	6.9	5826	136	8.6	4193	6.8	3091	Jeddah
179	152	4.7	4005	85	4.6	2242	5.8	2640	Taif
193	205	7.5	6387	106	6.8	3316	6.9	3118	Madinah
180	180	6.2	5232	100	6.0	2912	6.4	2909	Al Qassim
172	219	8.9	7569	127	9.0	4389	7.6	3456	Al-Sharqia
186	190	4.6	3898	102	4.3	2092	4.5	2055	Al-Ahsa
290	240	2.8	2404	83	1.7	829	2.2	1000	Hafar Al Batin
153	158	4.4	3693	103	5.0	2409	5.1	2330	Aseer
153	143	1.5	1311	93	1.8	856	2.0	920	Bisha
172	154	3.5	2953	90	3.5	1719	4.2	1920	Tabuk
178	147	3.4	2857	83	3.3	1607	4.3	1940	Hail
209	168	2.9	2448	80	2.4	1173	3.2	1460	Northern Borders
198	184	5.2	4433	93	4.6	2237	5.3	2415	Jazan
185	203	3.1	2638	110	2.9	1424	2.9	1300	Najran
134	124	1.9	1604	92	2.5	1195	2.8	1295	Al Bahah
243	228	3.6	3036	94	2.6	1248	2.9	1330	Al Jowf
265	232	1.3	1138	88	0.9	430	1.1	490	Al Qurayyat
131	191	0.9	763	146	1.2	584	0.9	400	Al Qunfudhah
183.9	185	100.0	84715	103.25	100.0	48653	100.0	45470	Total

Source: Ministry of Health in the Kingdom. The Annual Statistical Book for the year 2022.

- Nursing per 100 beds: The distribution of nursing staff per 100 beds in the Ministry of Health hospitals in the Al-Hafr Al-Batin health region ranked first in terms of nursing staff distribution, with 240 nurses per 100 beds. This was followed by the regions of Al-Qurayyat, Al-Jouf, the Eastern Province, the Holy Capital, Al-Madinah, and Najran, with 232, 228, 219, 206, 205, and 203 nurses per 100 beds, respectively. Meanwhile, the regions of Bisha and Al-Baha ranked last with 143 and 114 nurses per 100 beds, respectively.
- Nursing per 100 doctors: The distribution of nursing staff per 100 doctors in the Ministry of Health hospitals in the Al-Hafr Al-Batin health region ranked first in terms of nursing staff distribution, with 290 nurses per 100 doctors. This was followed by the regions of Al-Qurayyat, Al-Jouf, Al-Baha, Jazan, Al-Madinah, Al-Ahsa, and Najran, with 265, 243, 209, 198, 193, 186, and 185 nurses per 100 doctors, respectively. Meanwhile, the regions of Al-Baha and Al-Qunfudhah ranked last with 134 and 131 nurses per 100 doctors, respectively.
- The development of population numbers, per capita income, budget, and available health resources at the Ministry of Health in the Kingdom:

It is evident From the development of population numbers, per capita income, budget, and available health resources at the Ministry of Health in the Kingdom As shown in Tables (3) and (4) below:

- Population numbers: The population numbers ranged between a minimum of 23.9 million people in 2010 and a maximum of 32.8 million people in 2022, with an annual average of 29.1 million people and a standard deviation of 2.6. It was found that there is a generally increasing trend that is statistically significant at the 0.01 probability level, with an annual growth rate of 2.2%, and the annual increase in the population was estimated at 0.64 thousand people.
- Per capita: The per capita share ranged between a minimum of 22.03 thousand dollars in 2010 and a maximum of 34.44 thousand dollars in 2022, with an annual average of 26.3 thousand and a standard deviation of 3.64. It was found that the model is not statistically significant at the 0.05 significance level Different.
- Government budget: It ranged between a minimum of 540 billion riyals in 2010 and a maximum of 1020 billion riyals in 2020, with an annual average of 858.8 billion riyals and a standard deviation of 170.24. It was found that there is a significant upward trend statistically at the 0.01 probability level, with an annual growth rate of 5%, and the annual increase in the government budget was estimated at 42.94 billion riyals.
- The Ministry of Health's budget: It ranged from a minimum of 35.1 billion riyals in 2010 to a maximum of 111 billion riyals in 2022, with an annual average of 77.4 billion riyals and a standard deviation of 25.02. It was found that there is a generally increasing trend that is statistically significant at the 0.01 probability level, with an annual growth rate of 8.6%, and the annual increase in the Ministry of Health's budget was estimated at 6.66 billion riyals.
- Ministry of Health Hospitals: They ranged from a minimum of 215 hospitals in 2011 to a maximum of 287 hospitals in 2022, with an annual average of 270 hospitals and a standard deviation of 20.56. It was found that

there is a generally increasing trend that is statistically significant at the 0.01 probability level, with an annual growth rate of 8.6%, and the annual increase was estimated at 23 hospitals.
- The beds in the Ministry of Health hospitals: ranged between a minimum of 34.4 thousand beds in 2010, a maximum of 45.5 thousand beds in 2022, with an annual average of 41.1 thousand beds and a standard deviation of 4.1. It was found that there is a generally increasing trend that is statistically significant at the 0.01 probability level, with an annual growth rate of 2.5%, and the annual increase in beds was estimated at 1.03 thousand beds.
- Hospitals from other entities: They ranged from a minimum of 39 hospitals in 2010 to a maximum of 52 hospitals in 2022, with an annual average of 44.8 hospitals and a standard deviation of 4.6. It was found that there is a generally increasing trend that is statistically significant at the 0.01 probability level, with an annual growth rate of 2.7%, and the annual increase was estimated at 1.2 hospitals. It has been found that there is a generally increasing trend, statistically significant at the 0.01 probability level, with an annual growth rate of 2.7%, and the annual increase is estimated at 1.2 hospitals.

Table No. (3): Population numbers, per capita income, budget, and available health resources at the Ministry of Health in the Kingdom during the period from (2010-2022).

Source: Ministry of Health, Vision 2030, Annual Statistical Book, 2022, Various Issues.
Table No (4): General time trend equations for the development of the main variables related to population numbers, per capita share, budget, and available health resources in the health sector of the Kingdom during the period. (2010-2022)

F	R2	T	B	A	Item	
** 51.56	0.82	**7.18	0.022	3.21	Population numbers (in millions)	
2.8	0.20	1.7	0.016	3.15	Average per capita (thousand dollars)	
**44.51	0.80	**6.67	0.050	6.38	Government budget (billion riyals)	
**44.87	0.80	**6.70	0.86	3.69	Ministry of Health budget (billion riyals)	
19.1**	0.64	4.37**	0.017	5.48	The number of hospitals	Ministry of Health
116.15**	0.91	10.78**	0.025	3.54	Number of beds (thousands of beds)	
556.3**	0.98	23.59**	0.027	3.6	The number of hospitals	Other parties
112.57**	0.91	10.6**	0.027	2.32	Number of beds (thousands of beds)	
7.92**	0.42	2.8**	0.015	4.92	The number of hospitals	The private sector
47.9**	0.81	6.92**	0.033	2.57	Number of beds (thousands of beds)	
111.85**	0.91	10.58**	0.017	6.02	The number of hospitals	Total sector
176.2**	0.94	13.27**	0.027	4.05	Number of beds (thousands of beds)	

(**) Significant at 0.01 (*) Significant at 0.05 (-) Not significant

Source: Collected and calculated from the data in Table No. (3).
- Beds in other hospitals: They ranged from a minimum of 10.9 thousand beds in 2010 to a maximum of 15.2 thousand beds in 2022, with an annual average of 12.4 thousand beds and a standard deviation of 1.4. It was found that there is a generally increasing trend that is statistically significant at the 0.01 probability level, with an annual growth rate of 2.7%, and the annual increase in beds was estimated at 330 beds.
- Private sector hospitals: They ranged from a minimum of 127 hospitals in 2010 to a maximum of 159 hospitals in 2021, with an annual average of 151 hospitals and a standard deviation of 13. It was found that there is a generally increasing trend that is statistically significant at the 0.01 probability level, with an annual growth rate of 1.5%, and the annual increase was estimated at 2 hospitals.
- Private sector hospital beds: They ranged from a minimum of 12.8 thousand beds in 2010 to a maximum of 17.8 thousand beds in 2022, with an annual average of 16.5 thousand beds and a standard deviation of 2.25. It was found that there is a general increasing trend that is statistically significant at the 0.01 probability level, with an annual growth rate of 3.3%, and the annual increase in beds was estimated at 544 beds.
- Total hospitals: Ranged from a minimum of 415 hospitals in 2010 to a maximum of 504 hospitals in 2020, with an average of 467 hospitals and a standard deviation of 31.2. It was found that there is a generally increasing trend that is statistically significant at the 0.01 probability level, with an annual growth rate of 1.7%, and the annual increase was estimated at 8 hospitals.
- Total beds: Ranged between a minimum of 58.1 thousand beds in 2010 and a maximum of 78.6 thousand beds in 2020, with an annual average of 70 thousand beds and a standard deviation of 7.44. It was found that there is

a generally increasing and statistically significant trend at the 0.01 probability level, with an annual growth rate of 2.7%, and the annual increase in beds was estimated at 1,900 beds.

Secondly: Measuring the efficiency of management in utilizing available health resources in the health regions of the Kingdom:

The estimation of technical efficiency for health regions in the Kingdom of Saudi Arabia is based on assessing the efficiency of each of these health regions according to the relationship of the combination of resources used, which includes the number of hospitals (hospital), number of beds (bed), number of doctors (doctor), number of doctors per 100 beds (doctor), number of nurses (nurse), number of nursing staff per 100 beds (nurse), and the population in each region (individuals).

1- Estimation of technical efficiency: The results of the non-parametric analysis for estimating the various efficiency criteria for technical efficiency, as shown in Table No. (5), indicate that according to the assumption of constant returns to scale, the overall average technical efficiency coefficient reached approximately 0.925. This means that the health regions in the Kingdom can increase their administrative efficiency (i.e., there is a deficiency in hospital management at the general level in the Kingdom due to a lack of management efficiency) by an estimated 7.5% without any increase in the resources used in the hospitals of those health regions. It was also found that 50% of the health regions achieved full efficiency of 100%. According to the variable returns to scale hypothesis, the overall average technical efficiency coefficient was approximately 0.952. This means that the health regions in the Kingdom can increase their administrative efficiency (indicating a deficiency due to a lack of management efficiency) by about 4.8% without any increase in the resources used in the hospitals of those health regions. It was also found that 70% of the health regions achieved full efficiency of 100%.

As for capacity efficiency (SE), which is the ratio of technical efficiency according to the fixed return to scale hypothesis to technical efficiency according to the variable return to scale hypothesis for the same health region, the capacity efficiency coefficient for the health regions in the Kingdom has reached About 0.971, according to the nature of the return on capacity, which means that some health regions have not reached optimal capacity efficiency in their hospitals and can achieve it by increasing their available health resources by approximately 2.9%.

It is evident that about 40% of the health regions in the Kingdom are subject to increasing returns to scale, while about 50% of the health regions in the Kingdom are subject to constant returns to scale, and about 10% of the health regions in the Kingdom are subject to decreasing returns to scale.

Table No. (5): Results of estimating technical efficiency, capacity efficiency, and the nature of capacity returns for health regions in the Kingdom.

Capacity efficiency	Technical competence		The region	**N**
	Variable capacity	Constant capacity		
1.00	1.00	1.00	Riyadh	1
0.963	0.525	0.505	Holy Makkah	2
0.978	1.00	0.978	Jeddah	3
0.851	1.00	0.851	Taif	4
1.00	1.00	1.00	Madinah	5
0.995	0.922	0.918	Al Qassim	6
0.97	0.833	0.808	Al-Sharqia	7
0.934	1.00	0.934	Al-Ahsa	8
1.00	1.00	1.00	Hafar Al Batin	9
1.00	1.00	1.00	Aseer	10
1.00	1.00	1.00	Bisha	11
0.978	0.892	0.872	Tabuk	12
1.00	1.00	1.00	Hail	13
1.00	1.00	1.00	Northern Borders	14
1.00	1.00	1.00	Jazan	15
0.917	0.997	0.914	Najran	16
1.00	1.00	1.00	Al Bahah	17
0.922	0.881	0.812	Al Jowf	18
0.916	1.00	0.916	Al Qurayyat	19
1.00	1.00	1.00	Al Qunfudhah	20
	0.952	0.925		Average

Source: Collected and calculated from the analysis of the research sample data using the DEAP 2.1 program.

2-Estimating Surpluses: By estimating the average quantity of input surpluses for health district hospitals, it becomes clear that there are surpluses in the inputs used in these hospitals that can be reduced without affecting the level of service performance in those hospitals, as shown in the data presented in Table (6), where the following is evident:

-Bed numbers: There is no excess in the number of beds in hospitals in the health regions of the Kingdom, which means that the bed numbers in the hospitals of the health regions have been fully utilized, and this is due to the efficiency in employing that resource.

-Number of doctors: As for the distribution of doctors in the hospitals of the Kingdom, it has been found that there are surpluses in the number of doctors in the hospitals of four health regions, which are the hospitals of the Holy Capital, Al-Qassim, the Eastern Province, and Tabuk, with a surplus of approximately 359, 528, 32, and 68 doctors for each region, respectively. The average number of doctors in the regions of the Kingdom was 49 doctors. This surplus of doctors could be utilized in other regions of the Kingdom under the Ministry of Health, which may have shortages or need some doctors in other government health sector entities, and to reduce or eliminate some expatriate doctors from outside the Kingdom.

- Doctors per 100 beds: It has been found that there is an excess (an increased number in the distribution of ﷺ doctors to beds per 100 beds that should be redistributed to other hospitals' beds to achieve optimal efficiency) in the hospitals of the regions of the Holy Capital,

Qassim, Eastern Province, Tabuk, Najran, Al-Jawf, with approximately 1293, 606, 764, 168, 226, and 31 doctors per bed respectively, with an overall average for all health regions in the Kingdom of approximately 154 doctors per 100 beds. Regarding the distribution of nurses in the hospitals of the health regions in the Kingdom, it has been found that there is an excess (an excess number of nurses that should be reduced to achieve efficiency in managing those hospitals) in the hospitals of the regions of Makkah, Al-Qassim, Eastern Province, Tabuk, Najran, and Al-Jouf, amounting to approximately 37, 3, 26, 6, 18, and 3 nurses for each region respectively, with an overall average for all health regions in the Kingdom of approximately 5 nurses.

Table No. (6): Estimation of Input Surpluses for Health Region Hospitals in the Kingdom.

Population number of people	Nursing for every 100 doctors	Nursing per 100 Bed	Number of nurses	Doctors per 100 beds	Number of doctors	Number of beds	The region
0	0	0	0	0	0	0	Riyadh
0.0	53	1846	37	1293	359	0	Holy Makkah
0.0	0.0	0.0	0.0	0.0	0.0	0	Jeddah
0.0	0.0	0.0	0.0	0.0	0.0	0	Taif
0.0	0.0	0.0	0.0	0.0	0.0	0	Madinah
0.0	6	1095.0	3.0	606	528.0	0	Al Qassim Province
0.0	45	1394	26	764	32.0	0	Al-Sharqia Governorate
0.0	0.0	0.0	0.0	0.0	0.0	0	Al-Ahsa
0.0	0.0	0.0	0.0	0.0	0.0	0	Hafar Al Batin
0.0	0.0	0.0	0.0	0.0	0.0	0	Aseer
0.0	0.0	0.0	0.0	0.0	0.0	0	Bisha
0.0	10	267	6	168	68.0	0	Tabuk
0.0	0.0	0.0	0.0	0.0	0.0	0	Hail
0.0	0.0	0.0	0.0	0.0	0.0	0	Northern Borders
0.0	0.0	0.0	0.0	0.0	0.0	0	Jazan
50.7	79	1024	18	226	0.0	0	Najran
0.0	0.0	0.0	0.0	0.0	0.0	0	Al Bahah
106.6	103	1364.0	3	31	0.0	0	Al Jowf
0.0	0.0	0.0	0.0	0.0	0.0	0	Al Qurayyat
0.0	0.0	0.0	0.0	0.0	0.0	0	Al Qunfudhah
7.9	14.8	349.5	4.6	154.4	49.3	0	The average

Source: Collected and calculated from the analysis of health region data in the Kingdom using the program.

-**Nurses per 100 beds**: The surplus in the distribution of nurses per 100 beds in the health region hospitals of the Kingdom in the hospitals of the regions of Makkah, Qassim, Eastern Province, Tabuk, Najran, and Al-Jawf was estimated at approximately 1846, 1095, 1394, 267, 1024, and 1364 nurses per 100 beds, with an overall average for all health regions in the Kingdom estimated at approximately 350 nurses per 100 beds (the excess number of nurses per 100 beds should be redistributed to other hospitals to achieve optimal management efficiency). The surplus in the distribution of nurses per 100 doctors in the health regions of the Kingdom's hospitals in the regions of Makkah, Qassim, Eastern Province, Tabuk, Najran, and Al-Jouf was estimated at approximately 53, 6, 45, 10, 79, and 103 nurses per 100 doctors, with an overall average for all health regions in the Kingdom estimated at approximately 15 nurses per 100 doctors (the excess number of nurses per 100 doctors should be redistributed to other hospitals to achieve optimal management efficiency).

-**Population numbers:** The number of hospitals affiliated with the health sector in the Kingdom is sufficient for the population density in those areas, and their management achieves efficiency in using their available health resources, except for the regions of Najran and Al-Jawf, where the distribution of the population to the number

of hospitals may be less than the population density. This may require an increase in the number of hospitals and medical and nursing staff to cover the area's density with the number of hospitals.
From the above, we conclude that there is a problem in managing hospitals in all areas of the Holy Capital, Qassim, Eastern Province, Tabuk, Najran, and Al-Jouf. These hospitals in these areas may need to redistribute their resources to other regions to ensure efficient management of their available health resources from the Ministry of Health in the Kingdom. As for the hospitals in other health regions, the management responsible for them is making optimal use of their resources, which achieves efficiency for these health facilities. The other regions should follow their example in managing their resources.

Third: Measuring the quality of medical and therapeutic services provided by medical institutions in the research sample in Jeddah hospitals from the beneficiaries' perspective:
Good healthcare is the service whose standards meet the needs of the patient and align with their expectations. Hospitals strive to meet these expectations by identifying the standards that customers or beneficiaries of the service refer to in order to judge the quality of the provided service and the possibility of meeting these expectations. Among the most prominent standards are the following:
1- Tangibility criterion: It represents the aspects related to service delivery such as buildings, furniture, modern technologies used in providing the service, the appearance of the hospital, and the personal appearance of the staff.
2- Assurance and guarantee criterion: The patient receives an accurate diagnosis and thorough examination and feels satisfaction and reassurance regarding the services provided by the hospital.
3-Response criterion: It reflects the hospital's ability to consistently provide services to clients when they need them.
4- Interaction Standard: It reflects the degree to which the service provider understands the needs of the service clients, meaning the doctor's ability to comprehend the patient's needs, the good treatment of patients, appreciation of their circumstances, and the efficiency of the service provider in delivering the service.
5- Reliability criterion: The ability to perform in meeting the quality requirements of health services.
6- Technical quality standard: It includes providing all medical services and performing all surgical operations at reasonable prices.
7-Standard of Medical Quality Management: It includes all medical facilities related to providing specialized medical staff.

Description and analysis of the research sample:
1-The description of the research sample for beneficiaries and patients in the hospitals of Jeddah city includes a sample of 180 questionnaires distributed to patients and visitors to survey their opinions on the nature and quality of the healthcare services provided by the hospital. The survey reached a number of personal traits and characteristics of the sample as shown in Table (7), which can be described as follows:

Table No. (7): General characteristics of patients or beneficiaries of the health services provided in the sample research hospitals

%	Repetition	The statement	
10	18	Less than 30 years old	**Age**
20.56	37	From 30 years : Less than 45 years	
46.11	83	From 45 years : less than 60 years	
23.33	42	60 years - or more	
100	180	Total	
35.56	64	Male	**Type**
64.44	116	Female	
100.00	**180**	Total	
6.67	12	Single	Marital status
10.00	18	Married	
73.33	132	Married and providing for a family.	
8.33	15	Widower	
1.67	3	Divorced	
100.00	180	Total	
1.67	3	illiterate	Educational level
3.89	7	Reads and writes	
53.89	97	Intermediate qualification	
37.78	68	Higher qualification	
2.78	5	Postgraduate qualification	
100.00	**180**	Average	

Source: Collected and calculated from the research sample data.
Age: Age was divided into age groups: (less than 30 years), (30 years to less than 45 years), (45 years to less than 60 years), (60 years and above). The age group (45 years to less than 60 years) ranked first among the groups benefiting from the health services provided in the sample hospitals, with a frequency of 83 times, representing 46.11% of the total frequencies. This was followed by the age group (60 years and above) with a frequency of 42 times, representing 23.3% of the total frequencies. Next was the age group (30 years to less than 45 years) with a frequency of 37 times, representing 20.6%. Finally, the age group (less than 30 years) with a frequency of 18 times, representing about 10% of the sample size taken from the patients Year and older) with a frequency of 42 times, representing 23.3% of the total frequencies, followed by the age group (30 years to less than 45 years) with a frequency of 37 times, representing 20.6%, followed by the age group (less than 30 years) with a frequency of 18 times, representing about 10% of the sample size taken from the patients.
Gender: The frequency of male patients was 64 males, representing about 35.6% of the total sample of patients, while the frequency of female patients was 116 females, representing about 64.4% of the total number of patients in the sample.
Social status: The social status was divided into single, married, married with dependents, widowed, and divorced. The social status of married with dependents came first among the social statuses benefiting from the health services provided in the sample hospitals, with a frequency of 132 times, representing 73.33% of the total frequencies. This was followed by the social status of married, with a frequency of 18 times, representing 10% of the total frequencies. Next was the social status of widowed, with a frequency of 15 times, representing 8.33%. Following that was the social status of single, with a frequency of 12 times, representing about 6.67% of the sample size taken from the patients. Finally, the social status of divorced, with a frequency of 3, representing about 1.67%.
Educational level: The educational levels were categorized as illiterate, literate, intermediate qualification, university qualification, and postgraduate qualification. The intermediate qualification was the most common among the cases benefiting from the health services provided in the sample hospitals, with a frequency of 97 times, representing 53.9% of the total repetitions. This was followed by the university qualification, which occurred 68 times, representing 37.78% of the total repetitions. Next was the literate level, with a frequency of 7 times, representing 3.89%. Following that was the postgraduate level, with a frequency of 5 times, representing about 2.78% of the sample size taken from the patients. Finally, the illiterate level occurred 3 times, representing about 1.67%.

2- Descriptive analysis and inferential testing: Descriptive statistics were represented by the weighted mean and standard deviation of the response weights of the sample items to answer the questions of the survey axes according to the five-point Likert scale and their frequency values.

- Tangibility Criterion: It is evident from the results of the survey of beneficiaries and patients of the health services provided in the sample hospitals according to the tangibility criterion, as shown in Table (8), that the responses of the sample individuals were as follows:
First statement: The hospital enjoys a high level of cleanliness. The frequency of responses was as follows: "Strongly agree" 86, representing 47.8% of the total sample responses to this question; "Agree" 66, representing 36.7% of the total sample responses; "Somewhat agree" 21, representing 11.7% of the total sample responses to the first question; "Disagree" 4, representing 2.2%; "Strongly disagree" 3, representing 1.7% of the total sample responses to this question. The weighted average was (4.27), indicating that the sample members' responses to this question tend towards strong agreement, with a relative importance of approximately 85.4%. The standard deviation was (0.875), and the closer the deviation value is to zero, the less deviation there is in the responses. The first paragraph (the first question) ranked first.
Secande statement: The hospital has modern equipment for patient examinations. The frequency of the response "Strongly Agree" was 78, representing 43.3% of the total sample responses to this question. The frequency of the response "Agree" was 62, representing 34.4% of the total sample responses to the question. The frequency of the response "Somewhat Agree" was 20, representing 11.1% of the total sample responses to the first question. The frequency of the response "Disagree" was 14, representing 7.8%. The frequency of the response "Strongly Disagree" was 6, representing 3.3% of the total sample responses to this question. It ranked sixth, with a weighted average of (4.07), indicating that the sample respondents tend to agree that the hospital uses modern equipment for examinations, with a relative importance of approximately 81.4%. The standard deviation was (1.08), indicating variations in the responses to this question.
Third statement: The hospital provides green spaces and therapeutic areas for the psychological comfort of patients. It ranked fourth, with the frequency of the response "I strongly agree" being 8778, representing 48.3% of the total sample responses to this question. The frequency of the response "I agree" was 62, representing 34.4% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 18, representing 10% of the total sample responses to the first question.

I disagree, the frequency was 7, representing 3.9%. I strongly disagree, the frequency was 6, representing 3.3% of the total sample responses to this question. The weighted average was (4.21), indicating that the sample respondents tend to strongly agree that the hospital has green spaces to provide psychological comfort for patients, with a relative importance of approximately 84.2%. The standard deviation was (1.00), indicating variations in the responses to this question.

Fourth statement: The hospital enjoys high-quality care and health services. The frequency of the response "I strongly agree" was 83, representing 46.1% of the total sample responses to this question. The frequency of the response "I agree" was 67, representing 37.2% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 22, representing 12.23.9% of the total sample responses to the first question. The frequency of the response "I disagree" was 7, representing 3.9%. The frequency of the response "I strongly disagree" was 1, representing 0.6% of the total sample responses to this question. This response ranked third, with a weighted average of (4.24), indicating that the sample members tend to strongly agree that the hospital enjoys high-quality care and health services, with a relative importance of approximately 84.8%. The standard deviation was (0.865), indicating no significant deviations in the responses to this question.

Fifth statement : The reception areas for patients and their families are sufficient. The frequency of the response "I strongly agree" was 72, representing 40% of the total sample responses to this question. The frequency of the response "I agree" was 78, representing 43.3% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 15, representing 3.9% of the total sample responses to the first question. The frequency of the response "I disagree" was 8, representing 4.4%. The frequency of the response "I strongly disagree" was 7, representing 3.3% of the total sample responses to this question. It ranked fifth, with a weighted average of (4.09), indicating that the sample respondents tend to agree that there are sufficient reception areas for patients and their families at the hospital, with a relative importance of approximately 81.8%. The standard deviation was (1.00), indicating some variation in the responses to this question.

sixth statement: The hospital has enough ambulances equipped with all medical supplies. The frequency of the response "I strongly agree" was 79, representing 43.9% of the total sample responses to this question. The frequency of the response "I agree" was 83, representing 46.1% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 11, representing 6.1% of the total sample responses to the question. The frequency of the response "I disagree" was 5, representing 2.8%. The frequency of the response "I strongly disagree" was 2, representing 1.1% of the total sample responses to this question. It ranked second, with a weighted average of (4.26), indicating that the sample members' responses to this question tend to strongly agree that the hospital provides a sufficient number of ambulances, with a relative importance of approximately 85.2%. The standard deviation was (0.794), indicating no significant deviations in the responses to this question. It was found that there are significant t differences for beneficiaries or patients in all items of the tangibility criterion at the 0.05 significance level.

2-Confirmation and Assurance Criterion: It is evident from the results of the survey of beneficiaries and patients of the health services provided in the sample hospitals according to the confirmation and assurance criterion, as shown in Table (9), that the responses of the sample individuals were as follows:

First statement: Doctors and nurses enjoy high professionalism. The frequency of the response "I strongly agree" was 70, representing 38.9% of the total sample responses to this question. The frequency of the response "I agree" was 74, representing 41.1% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 29, representing 16.1% of the total sample responses to the first question. The frequency of the response "I disagree" was 4, representing 2.2%. The frequency of the response "I strongly disagree" was 3, representing 1.7% of the total sample responses to this question. The weighted average was 4.3%, indicating that the sample members' responses to this question tend to agree that doctors and nurses enjoy high professionalism, with a relative importance of approximately 82.6%. The standard deviation was 0.881, indicating variations in the responses to this question. The t-test also showed significant differences in the patients' responses to this question.

Secande statement: The hospital provides specialized and rare specialties. The frequency of the response "Strongly Agree" was 66, representing 36.7% of the total sample responses to this question. The frequency of the response "Agree" was 80, representing 44.4% of the total sample responses to the question. The frequency of the response "Somewhat Agree" was 23, representing 12.8% of the total sample responses to the first question. The frequency of the response "Disagree" was 8, representing 34.4%. The frequency of the response "Strongly Disagree" was 3, representing 1.7% of the total sample responses to this question. The weighted average was (4.10), indicating that the sample members' responses to this question tend towards agreeing that the hospital provides specialized and rare specialties, with a relative importance of approximately 82%. The standard deviation was (0.0904), indicating no significant deviations in the responses to this question.

Third statement: The feeling of satisfaction and safety in the provided health services. The frequency of the response "Strongly Agree" was 70, representing 38.9% of the total sample responses to this question. The frequency of the response "Agree" was 70, representing 38.9% of the total sample responses to this question.

The frequency of the response "Somewhat Agree" was 23, representing 12.8% of the total sample responses to the first question. The frequency of the response "Disagree" was 8, representing 4.4%. The frequency of the response "Strongly Disagree" was 9, representing 5% of the total sample responses to this question. This came in third place, with a weighted average of (4.02), indicating that the sample members' responses to this question tend towards agreeing with the feeling of satisfaction and safety in the provided health services, with a relative importance of approximately 80.4% The standard deviation was (1.07), indicating the presence of variations in the responses to this ques

Fourth statement: The desire to frequently visit and repeat visits to the hospital. The frequency of the response "I strongly agree" was 36, representing 20% of the total sample responses to this question. The frequency of the response "I agree" was 54, representing 30% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 40, representing 22.2% of the total sample responses to the question. The frequency of the response "I disagree" was 34, representing 18.9%. The frequency of the response "I strongly disagree" was 16, representing 8.9% of the total sample responses to this question. It ranked fifth, with a weighted average of (3.33), indicating that the sample members' responses to this question tend towards *agreeing with the desire to frequently visit and repeat visits to the hospital, with a relative importance of approximately 66.6%*. The standard deviation was (1.24), indicating no significant deviations in the responses to this question.

Table No. (8): Results of the survey of beneficiaries and patients from the health services provided in the research sample hospitals according to the tangibility criterion.

The rank of the question	Sample direction	T test	%	Standard deviation	The average	Total	strongly disagree		disagree		I somewhat agree, but not completely		Agree		strongly agree		The standard
					The probable		%	Repetition	%	Repetition	%	Repetition	%	Repetition	%	Repetition	
1	I strongly agree.	19.41	84.4	0.875	4.27	180	1.7	3	**2.2**	**4**	**11.7**	**21**	36.7	66	47.8	86	The hospital enjoys a high level of cleanliness.
6	I agree.	13.3	81.4	1.08	4.07	180	3.3	6	**7.8**	14	**11.1**	20	34.4	62	43.3	78	The hospital has modern equipment for diagnosing patients.
4	I strongly agree.	16.6	84.2	1	4.3	180	3.3	6	**3.9**	7	**10.0**	18	34.4	62	48.3	87	The hospital provides green spaces and therapeutic areas for the psychological comfort of the patients.
3	I strongly agree.	19.5	84.8	0.865	4.24	180	0.6	1	**3.9**	7	**12.2**	22	37.2	67	46.1	83	The hospital enjoys high-quality care and health services.
5	I agree.	14.87	81.8	1	4.9	180	3.9	7	4.4	8	8.3	15	43.3	78	40	72	The waiting areas for patients and their families are sufficient.
2	I strongly agree	21.77	85.2	0.794	4.26	180	1.1	2	2.8	5	6.1	11	46.1	83	43.9	79	The hospital has an adequate number of ambulances equipped with all medical supplies.

Source: Collected and calculated from the research sample data.

Table No. (9): Results of the survey of beneficiaries and patients from the health services provided in the research sample hospitals according to the assurance and guarantee standard.

The rank of the question	Sample direction	T test	%	Standard deviation	The average	Total	strongly disagree		disagree		I somewhat agree, but not completely		Agree		strongly agree		The standard
					The probable		%	Repetition	%	Repetition	%	Repetition	%	Repetition	%	Repetition	
1	I strongly agree.	19.41	84.4	0.875	4.27	180	1.7	3	**2.2**	**4**	**11.7**	**21**	36.7	66	47.8	86	The hospital enjoys a high level of cleanliness.
6	I agree.	13.3	81.4	1.08	4.07	180	3.3	6	**7.8**	14	**11.1**	20	34.4	62	43.3	78	The hospital has modern equipment for diagnosing patients.
4	I strongly agree.	16.6	84.2	1	4.3	180	3.3	6	**3.9**	7	**10.0**	18	34.4	62	48.3	87	The hospital provides green spaces and therapeutic areas for the psychological comfort of the patients.
3	I strongly agree.	19.5	84.8	0.865	4.24	180	0.6	1	**3.9**	7	**12.2**	22	37.2	67	46.1	83	The hospital enjoys high-quality care and health services.
5	I agree.	14.87	81.8	1	4.9	180	3.9	7	4.4	8	8.3	15	43.3	78	40	72	The waiting areas for patients and their families are sufficient.
2	I strongly agree	21.77	85.2	0.794	4.26	180	1.1	2	2.8	5	6.1	11	46.1	83	43.9	79	The hospital has an adequate number of ambulances equipped with all medical supplies.

Source: Collected and calculated from the research sample data.

Fifth statement: The health services provided are good, with the frequency of the response "Strongly agree" being 53, representing 29.4% of the total sample responses to this question. The frequency of the response "Agree" was 65, representing 26.1% of the total sample responses to the question. The frequency of the response "Somewhat agree" was 38, representing 21.1% of the total sample responses to the first question. The frequency of the response "Disagree" was 24, representing 13.3% of the total sample responses to this question. The responses to this paragraph ranked fourth, with a weighted average of (3.82), indicating that the sample members tend to agree that the health services provided are good, with a relative importance of approximately 76.4%. The standard deviation was (1.01), indicating no significant deviations in the responses to this question.

It was found that there are significant t differences for beneficiaries or patients in all items of the tangibility criterion at the 0.05 significance level.

-Response Criterion: It is evident from the results of the survey of beneficiaries and patients of the health services provided at the hospitals in the research sample according to the response criterion as shown in Table (10) that the responses of the sample individuals were as follows:

First statement: The doctors' regularity in their work throughout the day. The frequency of the response "Strongly agree" was 46, representing 25.6% of the total sample responses to this question. The frequency of the response "Agree" was 79, representing 43.9% of the total sample responses to the question. The frequency of the response "Somewhat agree" was 53, representing 29.4% of the total sample responses to the first question. The frequency of the response "Disagree" was 2, representing 1.1% of the total sample responses to this question. The responses to this item ranked first, with a weighted average of (3.94), indicating that the sample members tend to agree that the health services provided are good, with a relative importance of approximately 78.8%. The standard deviation was (0.0771), indicating that there were no significant deviations in the responses to this question.

Secande statement: Doctors exhibit a degree of respect and good treatment towards patients. The frequency of the response "I strongly agree" was 47, representing 26.1% of the total sample responses to this question. The frequency of the response "I agree" was 56, representing 31.1% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 55, representing 30.6% of the total sample responses to the second question, I do not agree. The frequency reached 20, representing 11% of the total sample responses to this question. The frequency for the response "I strongly disagree" was 2, representing 1.1% of the total sample responses to this question. The answers to this item ranked second, with a weighted average of (3.94), indicating that the sample respondents tend to agree that doctors exhibit some respect and good treatment towards patients, with a relative importance of approximately 74%. The standard deviation was (1.01), indicating no significant deviations in the responses to this question.

Third statement: The healthcare service is available with the same efficiency throughout the day. The frequency of the response "Strongly agree" was 42, representing 23.3% of the total sample responses to this question. The frequency of the response "Agree" was 61, representing 33.9% of the total sample responses to the question. The frequency of the response "Somewhat agree" was 57, representing 31.7% of the total sample responses to the question. The frequency of the response "Disagree" was 17, representing 9.4%. The frequency of the response "Strongly disagree" was 3, representing 1.7% of the total sample responses to this question. This response ranked third, with a weighted average of (3.68), indicating that the sample members tend to agree that the healthcare service is available with the same efficiency throughout the day, with a relative importance of approximately 73.6%. The standard deviation was (0.989), indicating variations in the responses to this question.

Fourth statement: The provided healthcare meets patient satisfaction and fulfills their desires. The frequency of the response "Strongly Agree" was 39, representing 21.7% of the total sample responses to this question. The frequency of the response "Agree" was 61, representing 33.9% of the total sample responses to this question. The frequency of the response "Somewhat Agree" was 50, representing 27.8% of the total sample responses to this question. The frequency of the response "Disagree" was 26, representing 14.4%. The frequency of the response "Strongly Disagree" was 4, representing 2.2% of the total sample responses to this question. It ranked fifth, with a weighted average of (3.58), indicating that the sample members' responses to this question tend towards agreeing that the provided healthcare meets patient satisfaction and fulfills their desires, with a relative importance of approximately 71.16%. The standard deviation was (1.05), indicating no significant deviations in the responses to this question.

Fifth statement: Nursing and auxiliary staff enjoy the trust and satisfaction of patients. The frequency of the response "strongly agree" was 38, representing 21.1% of the total sample responses to this question. The frequency of the response "agree" was 64, representing 35.6% of the total sample responses to this question. The frequency of the response "somewhat agree" was 48, representing 26.7% of the total sample responses to this question. The frequency of the response "disagree" was 26, representing 14.4%. The frequency of the response "strongly disagree" was 4, representing 2.2% of the total sample responses to this question. It ranked third, with a weighted average of (3.59), indicating that the sample members' responses to this question tend to agree that nursing and auxiliary staff enjoy the trust and satisfaction of patients, with a relative importance of approximately 71.8%. The standard deviation was (1.04), indicating the presence of variations in the responses to this question. It was found that there are significant t differences for the beneficiaries or patients in all items of the response criterion at the 0.05 significance level.

-Interaction criterion: It is evident from the results of the survey of beneficiaries and patients of the health services provided in the sample hospitals according to the interaction criterion, as shown in Table (11), that the responses of the sample individuals were as follows:

First statement: The interaction of doctors and nurses with patients is flexible and courteous. The frequency of the response "strongly agree" was 23, representing 12.8% of the total sample responses to this question. The

frequency of the response "agree" was 52, representing 28.9% of the total sample responses to the question. The frequency of the response "somewhat agree" was 66, representing 36.7% of the total sample responses to the question. The frequency of the response "disagree" was 19, representing 10.6% of the total sample responses to this question. The responses to this paragraph ranked fourth, with a weighted average of (3.22), indicating that the sample members tend to agree that the interaction of doctors and nurses with patients is flexible and courteous, with a relative importance of approximately 64.4%. The standard deviation was (1.14), indicating that there were no significant deviations in the responses to this question.

Secande statement: There is a state of satisfaction among patients with the services provided by the assistants and reception staff. The frequency of the response "I strongly agree" was 33, representing 18.3% of the total sample responses to this question. The frequency of the response "I agree" was 53, representing 29.4% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 59, representing 32.8% of the total sample responses to the second question. The response "I disagree" was also noted.

Table No. (10): Results of the survey of beneficiaries and patients from the health services provided in the research sample hospitals according to the response criterion

The rank of the question	Sample direction	T test	%	Standard deviation	The average	Tota l	strongly disagree		disagree		I somewhat agree, but not completely		Agree		strongly agree		The standard
					The probable		%	Repetitio n	%	Repetitio n	%	Repetitio n	%	Repetitio n	%	Repetitio n	
1	I strongly agree.	19.4 1	84. 4	0.875	4.27	180	1. 7	3	**2. 2**	**4**	**11. 7**	**21**	36. 7	66	47. 8	86	The hospital enjoys a high level of cleanliness.
6	I agree.	13.3	81. 4	1.08	4.07	180	3. 3	6	**7. 8**	14	**11. 1**	20	34. 4	62	43. 3	78	The hospital has modern equipment for diagnosing patients.
4	I strongly agree.	16.6	84. 2	1	4.3	180	3. 3	6	**3. 9**	7	**10. 0**	18	34. 4	62	48. 3	87	The hospital provides green spaces and therapeutic areas for the psychological comfort of the patients.
3	I strongly agree.	19.5	84. 8	0.865	4.24	180	0. 6	1	**3. 9**	7	**12. 2**	22	37. 2	67	46. 1	83	The hospital enjoys high-quality care and health services.
5	I agree.	14.8 7	81. 8	1	4.9	180	3. 9	7	4. 4	8	8.3	15	43. 3	78	40	72	The waiting areas for patients and their families are sufficient.
2	I strongly agree	21.7 7	85. 2	0.794	4.26	180	1. 1	2	2. 8	5	6.1	11	46. 1	83	43. 9	79	The hospital has an adequate number of ambulances equipped with all medical supplies.

Source: Collected and calculated from the research sample data.

Table No. (11): Results of the survey of beneficiaries and patients from the health services provided in the research sample hospitals according to the interaction criterion

The rank of the question	Sample direction	T test	%	Standard deviation	The average	Total	strongly disagree		disagree		I somewhat agree, but not completely		Agree		strongly agree		The standard
					The probable		%	Repetition	%	Repetition	%	Repetition	%	Repetition	%	Repetition	
1	I strongly agree.	19.41	84.4	0.875	4.27	180	1.7	3	**2.2**	**4**	**11.7**	**21**	36.7	66	47.8	86	The hospital enjoys a high level of cleanliness.
6	I agree.	13.3	81.4	1.08	4.07	180	3.3	6	**7.8**	14	**11.1**	20	34.4	62	43.3	78	The hospital has modern equipment for diagnosing patients.
4	I strongly agree.	16.6	84.2	1	4.3	180	3.3	6	**3.9**	7	**10.0**	18	34.4	62	48.3	87	The hospital provides green spaces and therapeutic areas for the psychological comfort of the patients.
3	I strongly agree.	19.5	84.8	0.865	4.24	180	0.6	1	**3.9**	7	**12.2**	22	37.2	67	46.1	83	The hospital enjoys high-quality care and health services.
5	I agree.	14.87	81.8	1	4.9	180	3.9	7	4.4	8	8.3	15	43.3	78	40	72	The waiting areas for patients and their families are sufficient.
2	I strongly agree	21.77	85.2	0.794	4.26	180	1.1	2	2.8	5	6.1	11	46.1	83	43.9	79	The hospital has an adequate number of ambulances equipped with all medical supplies.

Source: Collected and calculated from the research sample data.

The frequency reached 16, representing 8.9% of the total sample items for this question. The frequency for the response "I strongly disagree" was 19, representing 10.6% of the total sample items for this question. The responses to this item ranked second, with a weighted average of (3.36), indicating that the sample members' responses to this question lean towards agreement. There is a prevailing sense of satisfaction among patients with the services provided by the assistants and reception staff, with a relative importance of approximately 67.2%. The standard deviation was (1.19), indicating no significant deviations in the responses to this question.

Third statement: The hospital administration deals with the patient and their families with a degree of transparency. The frequency of the response "Strongly agree" was 27, representing 15% of the total sample responses to this question. The frequency of the response "Agree" was 60, representing 33.3% of the total sample responses to this question. The frequency of the response "Somewhat agree" was 53, representing 29.4% of the total sample responses to this question. The frequency of the response "Disagree" was 21, representing 11.7%. The frequency of the response "Strongly disagree" was 19, representing 10.6% of the total sample responses to this question. This paragraph ranked third, with a weighted average of (3.31), indicating that the sample members somewhat agree that the hospital administration deals with the patient and their families with a degree of transparency, with a relative importance of approximately 66.2%. The standard deviation was (1.18), indicating variations in the responses to this question.

Fourth statement: The hospital management deals with some critical cases with a degree of wisdom. The frequency of the response "I strongly agree" was 34, representing 18.9% of the total sample responses to this question. The frequency of the response "I agree" was 56, representing 31.1% of the total sample responses to

the question. The frequency of the response "I somewhat agree" was 5, representing 30% of the total sample responses to the question. The frequency of the response "I disagree" was 21, representing 11.7%. The frequency of the response "I strongly disagree" was 15, representing 8.3% of the total sample responses to this question. This paragraph ranked fifth, with a weighted average of (3.41), indicating that the sample members tend to agree that the hospital management deals with some critical cases with a degree of wisdom, with a relative importance of approximately 68.2%. The standard deviation was (1.07), indicating no significant deviations in the responses to this question. It was found that there are significant t differences for beneficiaries or patients in all items of the response criterion at the 0.05 significance level.

-Technical Quality Standard: It is clear from the results of the survey of beneficiaries and patients of the health services provided in the sample hospitals according to the technical quality standard, as shown in Table (12), that the responses of the sample individuals were as follows:

First statement: The hospital enjoys a high level of service quality. The frequency of the response "Strongly agree" was 32, representing 17.8% of the total sample responses to this question. The frequency of the response "Agree" was 66, representing 36.7% of the total sample responses to this question. The frequency of the response "Somewhat agree" was 64, representing 35.6% of the total sample responses to this question. The frequency of the response "Disagree" was 11, representing 6.1% of the total sample responses to this question. The frequency of the response "Strongly disagree" was 7, representing 3.9% of the total sample responses to this question. The responses to this item ranked first, with a weighted average of (3.98), indicating that the sample members tend to agree that the hospital enjoys a high level of service quality, with a relative importance of approximately 71.6%. The standard deviation was (0.979), indicating no significant deviations in the responses to this question.

Secande statement: The hospital uses modern devices for detection. The frequency of the response "I strongly agree" was 23, representing 12.8% of the total sample responses to this question. The frequency of the response "I agree" was 68, representing 37.8% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 55, representing 30.6% of the total sample responses to the second question, "I do not agree" had a frequency of 15, representing 8.3% of the total sample for this question. The frequency for the answer "I strongly disagree" was 9, representing 10.6% of the total sample for this question. The responses to this item ranked second, with a weighted average of (3.34), indicating that the sample members tend to agree that the hospital uses modern devices for detection, with a relative importance of approximately 4.01%. The standard deviation was (1.13), indicating no significant deviations in the responses to this question.

Third statement: states that the buildings surrounding the hospital are suitable for the comfort of the patients. The frequency of the response "Strongly Agree" was 27, representing 15% of the total sample responses to this question. The frequency of the response "Agree" was 78, representing 43.3% of the total sample responses to this question. The frequency of the response "Somewhat Agree" was 41, representing 22.8% of the total sample responses to this question. The frequency of the response "Disagree" was 17, representing 9.4%. The frequency of the response "Strongly Disagree" was 17, representing 9.4% of the total sample responses to this question. This response ranked third, with a weighted average of (3.45), indicating that the sample members' responses to this question lean towards agreeing that the buildings surrounding the hospital are suitable for the comfort of the patients, with a relative importance of approximately 5.27%. The standard deviation was (1.14), indicating the presence of variations in the responses to this question.

Fourth statement: The hospital provides distinguished services to its patients and offers symbolic gestures. The frequency of the response "Strongly Agree" was 35, representing 19.4% of the total sample responses to this question. The frequency of the response "Agree" was 58, representing 32.2% of the total sample responses to the question. The frequency of the response "Somewhat Agree" was 65, representing 36.1% of the total sample responses to the question. The frequency of the response "Disagree" was 8, representing 4.4%. The frequency of the response "Strongly Disagree" was 14, representing 7.8% of the total sample responses to this question. It ranked fifth, with a weighted average of (3.51), indicating that the sample members' responses to this question tend towards agreeing that the hospital provides distinguished services to its patients and offers symbolic gestures, with a relative importance of approximately 5.26%. The standard deviation was (5.26).

Fifth statement: The efficiency of the hospital management places the hospital in a distinguished position. The frequency of the response "Strongly agree" was 32, representing 17.8% of the total sample responses to this question. The frequency of the response "Agree" was 50, representing 27.8% of the total sample responses to the question. The frequency of the response "Somewhat agree" was 60, representing 33.3% of the total sample responses to the question. The frequency of the response "Disagree" was 21, representing 11.7%. The frequency of the response "Strongly disagree" was 17, representing 9.4% of the total sample responses to this question. It ranked fifth, with a weighted average of (3.33), indicating that the sample members' responses to this question tend to agree that the efficiency of the hospital management places the hospital in a distinguished position, with a relative importance of approximately 6.26%. The standard deviation was (1.09), indicating the presence of variations in the responses to this question. It was found that there are significant t differences for beneficiaries or patients in all items of the response criterion at the 0.05 significance level.

- **The reliability quality standard** is evident from the results of the survey of beneficiaries and patients of the health services provided in the sample hospitals according to the reliability standard as shown in Table (13). The responses of the sample individuals were as follows:

First statement: The hospital retains all records and data related to patients. The frequency of responses was as follows: Strongly agree 35, representing 19.4% of the total sample responses to this question; Agree 68, representing 37.8% of the total sample responses; Somewhat agree 53, representing 29.4% of the total sample responses to the first question; Disagree 13, representing 7.2% of the total sample responses to this question; Strongly disagree 11, representing 6.1% of the total sample responses. The responses to this paragraph ranked first, with a weighted average of (3.57), indicating that the sample members tend to agree that the hospital retains all records and data related to patients, with a relative importance of approximately 71.4%. The standard deviation was (1.071), indicating no significant deviations in the responses to this question.

Secande statement: The hospital provides regular follow-up for patients, especially those with chronic diseases. The frequency of the response "I strongly agree" was 20, representing 11.1% of the total sample responses to this question. The frequency of the response "I agree" was 52, representing 18.9% of the total sample responses to the question. The frequency of the response "I somewhat agree" was 65, representing 36.1% of the total sample responses to the second question,"I disagree" had a frequency of 26, representing 14.4% of the total sample responses to this question. The frequency for the response "I strongly disagree" was 17, representing 9.4% of the total sample responses to this question. The responses to this item ranked fourth, with a weighted average of 3.18, indicating that the sample members somewhat agree with the hospital's periodic follow-up of patients, especially those with chronic diseases, with a relative importance of approximately 63.6%. The standard deviation was 1.11.

Third statement: The hospital meets the therapeutic needs of patients adequately. The frequency of the response "Strongly Agree" was 27, representing 15% of the total sample responses to this question. The frequency of the response "Agree" was 49, representing 27.2% of the total sample responses to the question. The frequency of the response "Somewhat Agree" was 68, representing 37.8% of the total sample responses to the question. The frequency of the response "Disagree" was 19, representing 10.6%. The frequency of the response "Strongly Disagree" was 17, representing 9.4% of the total sample responses to this question. This response ranked second, with a weighted average of (3.8), indicating that the sample respondents tend to agree that the hospital meets the therapeutic needs of patients adequately, with a relative importance of approximately 65.6%. The standard deviation was (1.13), indicating the presence of variations in the responses to this question.

Fourth statement: The hospital enjoys the trust and acceptance of patients. The frequency of the response "Strongly Agree" was 24, representing 13.3% of the total sample responses to this question. The frequency of the response "Agree" was 63, representing 35% of the total sample responses to the question. The frequency of the response "Somewhat Agree" was 51, representing 28.3% of the total sample responses to the question. The frequency of the response "Disagree" was 18, representing 10%. The frequency of the response "Strongly Disagree" was 24, representing 13.3% of the total sample responses to this question. This response ranked third, with a weighted average of (3.25), indicating that the sample respondents somewhat agree that the hospital enjoys the trust and acceptance of patients, with a relative importance of about 65%. The standard deviation was (1.21), indicating no significant deviations in the responses to this question.

Table No. (12): Results of the survey of beneficiaries and patients from the health services provided in the research sample hospitals according to the technical quality standard.

The rank of the question	Sample direction	T test	%	Standard deviation	The average	Total	strongly disagree		disagree		I somewhat agree, but not completely		Agree		strongly agree		The standard
					The probable		%	Repetition	%	Repetition	%	Repetition	%	Repetition	%	Repetition	
1	I strongly agree.	19.41	84.4	0.875	4.27	180	1.7	3	**2.2**	**4**	**11.7**	**21**	36.7	66	47.8	86	The hospital enjoys a high level of cleanliness.
6	I agree.	13.3	81.4	1.08	4.07	180	3.3	6	**7.8**	14	**11.1**	20	34.4	62	43.3	78	The hospital has modern equipment for diagnosing patients.
4	I strongly agree.	16.6	84.2	1	4.3	180	3.3	6	**3.9**	7	**10.0**	18	34.4	62	48.3	87	The hospital provides green spaces and therapeutic areas for the psychological comfort of the patients.
3	I strongly agree.	19.5	84.8	0.865	4.24	180	0.6	1	**3.9**	7	**12.2**	22	37.2	67	46.1	83	The hospital enjoys high-quality care and health services.
5	I agree.	14.87	81.8	1	4.9	180	3.9	7	4.4	8	8.3	15	43.3	78	40	72	The waiting areas for patients and their families are sufficient.
2	I strongly agree	21.77	85.2	0.794	4.26	180	1.1	2	2.8	5	6.1	11	46.1	83	43.9	79	The hospital has an adequate number of ambulances equipped with all medical supplies.

Source: Collected and calculated from the research sample data.

Table No. (13): Results of the survey of beneficiaries and patients from the health services provided in the research sample hospitals according to the reliability criterion

The rank of the question	Sample direction	T test	%	Standard deviation	The average	Total	strongly disagree		disagree		I agree, somewhat but not completely		Agree		strongly agree		The standard
					The probable		%	Repetition	%	Repetition	%	Repetition	%	Repetition	%	Repetition	
1	I strongly agree.	19.41	84.4	0.875	4.27	180	1.7	3	**2.2**	**4**	**11.7**	**21**	36.7	66	47.8	86	The hospital enjoys a high level of cleanliness.
6	I agree.	13.3	81.4	1.08	4.07	180	3.3	6	**7.8**	14	**11.1**	20	34.4	62	43.3	78	The hospital has modern equipment for diagnosing patients.
4	I strongly agree.	16.6	84.2	1	4.3	180	3.3	6	**3.9**	7	**10.0**	18	34.4	62	48.3	87	The hospital provides green spaces and therapeutic areas for the psychological comfort of the patients.
3	I strongly agree.	19.5	84.8	0.865	4.24	180	0.6	1	**3.9**	7	**12.2**	22	37.2	67	46.1	83	The hospital enjoys high-quality care and health services.
5	I agree.	14.87	81.8	1	4.9	180	3.9	7	4.4	8	8.3	15	43.3	78	40	72	The waiting areas for patients and their families are sufficient.
2	I strongly agree	21.77	85.2	0.794	4.26	180	1.1	2	2.8	5	6.1	11	46.1	83	43.9	79	The hospital has an adequate number of ambulances equipped with all medical supplies.

Source: Collected and calculated from the research sample data.

- **Quality Management Standard:** It is evident from the results of the survey of beneficiaries and patients of the health services provided in the sample hospitals according to the quality standard, as shown in Table (14), that the responses of the sample individuals were as follows:

First statement: The hospital is equipped with the latest therapeutic devices, physiotherapy equipment, and laboratories. The frequency of responses was as follows: "Strongly agree" 35, representing 19.4% of the total sample responses to this question; "Agree" 71, representing 39.4% of the total sample responses; "Somewhat agree" 59, representing 32.8% of the total sample responses to the first question; "Disagree" 4, representing 2.2% of the total sample responses to this question; "Strongly disagree" 11, representing 6.1%. The responses to this paragraph ranked first, with a weighted average of (3.64), indicating that the sample members tend to agree on the hospital being equipped with the latest therapeutic devices, physiotherapy equipment, and laboratories, with a relative importance of approximately 72.8%. The standard deviation was (1.02).

Secande statement: The hospital provides regular follow-up for patients, especially those with chronic diseases. The frequency of responses "Strongly Agree" was 23, representing 12.8% of the total sample responses to this question. The frequency of responses "Agree" was 45, representing 25% of the total sample responses to the question. The frequency of responses "Somewhat Agree" was 62, representing 34.4% of the total sample responses to the second question. The frequency of responses "Disagree" was 30, representing 16.7% of the total sample responses to this question. The frequency of responses "Strongly Disagree" was 20, representing 11.1% of the total sample responses to this question. The responses to this paragraph ranked fourth, with a weighted average of (3.12), indicating that the sample members somewhat agree on the training and qualification of medical and nursing staff, with a relative importance of approximately 62.4%. The standard deviation was (1.17).

Third statement: The introduction of good devices in the field of early tumor detection received the following responses: Strongly agree 33, representing 18.3% of the total sample responses to this question; Agree 70, representing 38.9% of the total sample responses to this question; Somewhat agree 51, representing 28.3% of the total sample responses to this question; Disagree 11, representing 6.1%; Strongly disagree 15, representing 8.3% of the total sample responses to this question. This response ranked second, with a weighted average of (3.53), indicating that the sample members tend to agree on the introduction of good devices in the field of early tumor detection, with a relative importance of approximately 70.6%. The standard deviation was (1.12).

Fourth statement: The probabilistic distribution of the problems and obstacles affecting the availability of health services from the perspective of beneficiaries in the research sample:

By reviewing the relative importance and its probabilistic distribution of the problems or obstacles affecting the availability of health services from the beneficiaries' perspective according to the opinions of patients in the research sample in the Jeddah area, it is evident from the analysis results presented in Table No. (7) that the most significant problems and their probabilistic distribution at a 95% confidence level are the lack of rare specialties in hospitals, which ranked first among the problems with a frequency of approximately 175 patients, accounting for about 97%. The confidence interval for the probability of this problem occurring ranged between a minimum of approximately 95% and a maximum of approximately 100%.\ In second place came the problem of insufficient time for examination and diagnosis, with a frequency of approximately 162 patients, accounting for about 90%. The confidence interval for the probability of this problem occurring ranged between a minimum of approximately 86% and a maximum of approximately 94%

The third issue was the long waiting times in reception areas, with a frequency of approximately 160 cases, accounting for about 89%. The confidence interval for the likelihood of this issue occurring ranged from a minimum of approximately 84% to a maximum of approximately 93%. The fourth issue was the insufficient number of experienced consultants and specialists, with a frequency of approximately 150 patients, accounting for about 83%. The confidence interval for the likelihood of this issue occurring ranged from a minimum of

approximately 78% to a maximum of approximately 89%. The fifth issue was the training of human resources, especially nursing staff, with a frequency of approximately 140, accounting for about 78%. The confidence interval for the likelihood of this issue occurring ranged from a minimum of approximately 72% to a maximum of approximately 84%.
In sixth place came the issue of insufficient waiting areas for patients and their companions, with the problem occurring approximately 133 times, accounting for about 74%. The confidence interval for the likelihood of this problem occurring ranged from a minimum of about 67% to a maximum of about 80%.In seventh place came the issue of repeated malfunctions in some precision devices, with the problem occurring approximately 122 times at a rate of about 68%. The confidence interval for the likelihood of the problem occurring ranged from a minimum of about 61% to a maximum of about 75% While the eighth place was the issue of the shortage of some medications, especially for rare diseases, where the frequency of the problem was about 115 with a percentage of about 61%, and the confidence interval for the likelihood of the problem occurring ranged between a minimum of about 61% and a maximum of about 75%. While the issue of congestion ranked ninth.
Patients from interactions with auxiliary services and reception staff, where the frequency of the problem reached approximately 105 with a percentage of about 58%, and the confidence interval for the probability of the problem occurring ranged between a minimum of about 51% and a maximum of about 66%.

Recommendations:
1- It is essential to focus on maintaining and enhancing the relationship and sense of satisfaction between patients and the medical services provided by hospitals, especially in delivering proper healthcare, and to provide a medical staff with distinguished scientific expertise that reflects a high degree of trust and reassurance among patients.
2- Keeping up with everything new in the field of modern medicine, with the necessity of continuous training for medical staff and nursing teams on the latest scientific methods, and on the modern technologies and devices used in treating patients.
3- Working on providing the hospital with regular follow-ups for patients, especially those with chronic diseases, while paying attention to the external and internal appearance of the hospital so that the patient feels a sense of reassurance and trust in the hospital as the service provider.

Table No. (14): Results of the survey of beneficiaries and patients from the health services provided in the research sample hospitals according to the quality management standard

The rank of the question	Sample direction	T test	%	Standard deviation	The average	Total	strongly disagree		disagree		I somewhat agree, but not completely		Agree		strongly agree		The standard
					The probable		%	Repetition	%	Repetition	%	Repetition	%	Repetition	%	Repetition	
1	I strongly agree.	19.41	84.4	0.875	4.27	180	1.7	3	**2.2**	**4**	**11.7**	**21**	36.7	66	47.8	86	The hospital enjoys a high level of cleanliness.
6	I agree.	13.3	81.4	1.08	4.07	180	3.3	6	**7.8**	14	**11.1**	20	34.4	62	43.3	78	The hospital has modern equipment for diagnosing patients.
4	I strongly agree.	16.6	84.2	1	4.3	180	3.3	6	**3.9**	7	**10.0**	18	34.4	62	48.3	87	The hospital provides green spaces and therapeutic areas for the psychological comfort of the patients.
3	I strongly agree.	19.5	84.8	0.865	4.24	180	0.6	1	**3.9**	7	**12.2**	22	37.2	67	46.1	83	The hospital enjoys high-quality care and health services.
5	I agree.	14.87	81.8	1	4.9	180	3.9	7	4.4	8	8.3	15	43.3	78	40	72	The waiting areas for patients and their families are sufficient.
2	I strongly agree	21.77	85.2	0.794	4.26	180	1.1	2	2.8	5	6.1	11	46.1	83	43.9	79	The hospital has an adequate number of ambulances equipped with all medical supplies.

Source: Collected and calculated from the research sample data.

Table No. (15): The probabilistic distribution of problems and obstacles affecting the availability of health services from the beneficiaries' perspective

The rank of the question	Sample direction	T test	%	Standard deviation	The average	Total	strongly disagree		disagree		I somewhat agree, but not completely		Agree		strongly agree		The standard
					The probable		%	Repetition	%	Repetition	%	Repetition	%	Repetition	%	Repetition	
1	I strongly agree.	19.41	84.4	0.875	4.27	180	1.7	3	**2.2**	**4**	**11.7**	**21**	36.7	66	47.8	86	The hospital enjoys a high level of cleanliness.
6	I agree.	13.3	81.4	1.08	4.07	180	3.3	6	**7.8**	14	**11.1**	20	34.4	62	43.3	78	The hospital has modern equipment for diagnosing patients.
4	I strongly agree.	16.6	84.2	1	4.3	180	3.3	6	**3.9**	7	**10.0**	18	34.4	62	48.3	87	The hospital provides green spaces and therapeutic areas for the psychological comfort of the patients.
3	I strongly agree.	19.5	84.8	0.865	4.24	180	0.6	1	**3.9**	7	**12.2**	22	37.2	67	46.1	83	The hospital enjoys high-quality care and health services.
5	I agree.	14.87	81.8	1	4.9	180	3.9	7	4.4	8	8.3	15	43.3	78	40	72	The waiting areas for patients and their families are sufficient.
2	I strongly agree	21.77	85.2	0.794	4.26	180	1.1	2	2.8	5	6.1	11	46.1	83	43.9	79	The hospital has an adequate number of ambulances equipped with all medical supplies.

Source: Collected and calculated from the research sample data.

References

English references

1.Ahmad Mohamed Al-Maliki (Doctor), Requirements for Implementing Total Quality in General Hospitals, Journal of Human Development for Specialized Research, October 2018.Ahmed Mohamed Al-Maliki (Doctor), Requirements for Implementing Total Quality in General Hospitals, Journal of Human Development for Specialized Research, October 2018.

2. Kingdom of Saudi Arabia, Ministry of Health, Strategic Plan, 1431-1440 AH.Saudi Arabia, Ministry of Health, Strategic Plan, 1431-1440 AH.

3.Dr. Badi Al-Fahim. Zouiyouch Bilal, Quality of Health Services: Characteristics, Dimensions, and Indicators, Journal of Economics and Society, Issue 7, 2011.

4.Tawfiq Muhammad Abd al-Mohsen, Quality Benchmarking and Comparative Measurement, Dar Al-Fikr Al-Arabi, Al-Nahda Al-Masriya Library, Al-Maktaba Al-Academia, 2004.

5.Belmerad Dasi Yamen, Total Quality Management in Health Services, University of Batna, Algeria, Volume 8, Issue 2, 2020

6.Dr.Sami Ahmed, Measuring the Quality of Healthcare Services in Government Hospitals, An Applied Study on Government Hospitals in Taiz City, Yemen from the Beneficiary's Perspective, Baghdad College of Economic Sciences University Journal, Issue 39, 2014.

7. Abdul Sattar Al-Ali (PhD), Applications in Total Quality Management, Dar Al-Maseera, Amman 2010.Abdul Sattar Al-Ali (Doctor), Applications in Total Quality Management, Dar Al-Maseera, Amman 2010. 8.Alaa Farag Hassan Radwan (Doctor), The Role of Maha Art in Patient Interaction in Improving the Quality of Healthcare Services, Scientific Journal of Economics and Trade, Faculty of Commerce, Menoufia University, 2021.

9.Awad Khalaf Al-Anzi (Doctor), Total Quality Management of Services, Kuwait, 2005. 10.World Health Organization, Framework on Integrated People-Centered Health Services, Executive Board, 138th session, December 2015

11.World Health Organization, Organisation for Economic Co-operation and Development, and International Bank for Reconstruction and Development, Providing High-Quality Health Services: A Global Necessity for Universal Health Coverage, 2019.

12.Charnes A., W. W. Cooper, A. Y. Lewin, and L.M. Seiford Data Envelopment Analysis: Theory, Methodology, and Applications",Kluwer Press , (1995).

13.Coelli, T.J A Guide to FRONTIER Version 4.1 : A computer Program for Stochastic Production Function and Cost Function Estimation " , Memeo .,Department of Econometrics University of New England Armidale , Australia.,(1994).

14.CARMAN James M. et al., Keys for successful implementation of T.Q.M in hospital, Health Care

15. Management Review, vol. 21, n. 1, Winter 1996, p: 28.

16. SULEK J.M. et al., The impact of customer service, Management Service Journal, vol. 41, n. 11, 1995, pp: 122-134

Arabic references

1. أحمد محمد المالكى(دكتور)،**متطلبات تطبيق الجودة الشاملة فى المستشفيات العامة**، مجلة التنمية البشرية للابحاث التخصصية، أكتوبر، 2018.
2. المملكة العربية السعودية، وزارة الصحة، **الخطة الاستراتيجية**، 1431-1440ه.
3. بديسي فهيمـــة(دكتور) .زويوش بلال، **جودة الخدمات الصحية الخصائص، الأبعاد والمؤشرات** ، مجلة الاقتصاد والمجتمع، العدد7 ، 2011.
4. توفيق محمد عبد المحسن، **قياس الجودة والقياس المقارن**، دار الفكر العربى، مكتبة النهضة المصرية، المكتب الاكاديمى، 2004.
5. بلمراد داسى يامن، **إدارة الجودة الشاملة فى الخدمات الصحية**، جامعة باتنة، الجزائر، المجلد 8، العدد 2، 2020
6. د.سامى أحمد، **قياس جودة الخدمات الصحية في المستشفيات الحكومية**، درسة تطبيقية على المستشفيات الحكومية فى مدينة تعز اليمن من وجهة نظر المستفيد، مجلة كلية بغداد للعلوم الاقتصادية الجامعة، العدد التاسع والثلاثون 2014 .
7. عبد الستار العلى(دكتور)، **تطبيقات فى أدارة الجودة الشاملة**، دار المسيرة، عمان 2010.
8. علاء فرج حسن رضوان(دكتور)، **دور مهارات التعامل مع المرضى فى تحسين مستوى جودة الخدمة الصحية**، المجلة العلمية للاقتصاد والتجارة، كلية التجارة ، جامعة المنوفية،2021.
9. عوض خلف العنزى(دكتور)، **أدارة الجودة الشاملة للخدمات**، الكويت، 2005.
10. منظمة الصحة العالمية، **إطار الخدمات الصحية المتكاملة التي تركز على الناس** ، المجلس التنفيذي ،الدورة الثامنة والثلاثون بعد المائة ، ديسمبر ٢٠١٥
11. منظمة الصحة العالمية ة، منظمة التعاون والتنمية فى الميدان والبنك الدولى للانشاء والتعمير ، **تقديم خدمات صحية عالية الجودة: ضرورة عالمية للتغطية الصحية الشاملة**، 2019.