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The Role of Medical Records Management in Activating Knowledge Management Applications in Saudi Arabia Hospitals

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ABSTRACT

There are many justifications that prompted the researcher to choose the subject of the study, namely: The developments witnessed by the health sector worldwide and the Kingdom of Saudi Arabia in particular; the importance and necessity of exchanging knowledge between the various bodies and institutions in the Kingdom of Saudi Arabia to achieve the goals of Vision 2030 programs; the need to build an electronic health system that contributes to the development of scientific research in the health sector in the Kingdom of Saudi Arabia. Therefore, the aim of this article aims to identify the role of medical records management in activating knowledge management applications in private hospitals in the Kingdom of Saudi Arabia. To achieve this general goal, the researcher seeks to achieve the following sub-goals: Identifying the most prominent medical records management practices in private hospitals in the Kingdom of Saudi Arabia; Identifying the requirements for the success of medical records management in activating knowledge management applications in private hospitals in the Kingdom of Saudi Arabia; Exposing the impact of medical records management in private hospitals in the Kingdom of Saudi Arabia; Exposing the obstacles that hinder the management of medical records in private hospitals in the Kingdom of Saudi Arabia from the application of knowledge management; Identify the basic elements of the model that supports the contribution of the medical records management in the field and Supporting as well as activating knowledge management applications in private hospitals in the Kingdom of Saudi Arabia.

Key words: Knowledge, Knowledge management, Medical Record, Electronic Medical Record,

1. INTRODUCTION

With the massive merger between medicine and technology, the benefits have come to the benefit of both the patient and the doctor alike. The patient now receives medical and diagnostic services in less time and with high accuracy, with the possibility of approaching and comparing results and treatments. As for the doctor, he is now able to view the patient's file and medical history and review this data at any time, with the ability to compare it with other patients. All this through the approved systems and programs in hospitals and medical centers.

Many first-world countries have achieved great success in their hospitals at the level of applying electronic record systems and programs after realizing their importance in terms of developing health care provided, as it is no less important than any other medical or therapeutic achievement. The electronic medical record is the main source of information that the doctor relies on in making various medical decisions. The emergence of modern software and systems for electronic medical records and their widespread spread has facilitated the work of doctors and nursing staff in hospitals and medical centers and has also contributed to providing better and more comprehensive care to the patient. In fact, information technology in the health sector has opened up huge potential through advanced electronic medical record software.

These systems have been organized to facilitate the doctor's work and to provide complete electronic monitoring, so that electronic health records have become a center of strength in helping the doctor to perform his work in a better way through the patient's medical information provided in an integrated and consistent form. Perhaps its importance lies in the fact that it is linked with hospital information systems and its various services, such as the laboratory and radiology departments, the pharmacy, and others.

The implementation of such systems in health facilities contributes to reducing errors much less than paper records, and also greatly improves communication between doctors, allowing each party to have full access to the patient's medical history instead of a quick glance during the patient's visit to the clinic. Electronic medical records give the doctor the ability to accurately document all steps of patient care and to provide complete electronic monitoring centrally, whether by the patient or remotely, through programs that provide leading software solutions.

However, in this field, we must differentiate between the electronic medical record and the electronic health record. The Electronic Medical Records-EMR is an electronic system for saving all the patient's personal and medical

information, including his medical and medical history, laboratory and x-ray examinations, and drug prescriptions. In addition to all medical services provided to the patient since the establishment of the record. This system is implemented in a single hospital and information cannot be shared with any other medical facility. Electronic Health Records-EHR links several independent health facilities, whether inside or outside the hospital. Thus, patient information is available at the sector or country level.

Today, the world is witnessing many rapid, rapid and successive changes, as it has become the dominant feature of most institutions, especially health institutions, volatility and rapid dynamic change that has been largely associated with technological progress, which necessitated researchers and management scholars to the need to get rid of the traditional consuming administrative principles that are no longer effective, and to explore New methods and methods that are compatible with the stage of the twenty-first century and the major crises that the world is facing at the present time, such as the Covid-19 epidemic and climate. Knowledge and information are the main pillar of states and institutions in the current era, as it is one of the most prominent administrative methods aimed at adapting to the requirements and changes of the current time, as knowledge is the most important element in creating wealth and achieving excellence and creativity in light of the intellectual data in which many intellectual terms such as globalization have risen. Privatization, the information and communication revolution, and the expansion of relations between different human societies.

In the midst of the technological developments that the world is witnessing in the new century, organizations had to work on drawing up plans and policies aimed at developing approved systems in all their forms to secure fast and advanced services that link them to international organizations in general and to health sector organizations in particular. The electronic medical record system is one of the contemporary requirements that It improved the work of the health organization towards achieving its goals and linking it to the outside world [5].

With the development of industry and the emergence of modern, advanced and massive technology, especially in the field of information and data, it has become necessary to keep pace with the age of information technology and deal with data in a scientific manner in keeping with the tremendous technological development. Information, information management, or knowledge management [4].

Here, [6] stated that knowledge management is one of the basic requirements for any process or activity in health organizations, whether directly or indirectly, as information represents the basic building block of organizational processes and the actual driver of many administrative activities in various organizations and institutions with different objectives. and its directions.

This was confirmed by [3] that health knowledge management is one of the important strategic rules that contribute to improving medical services and developing medical and administrative performance for health sector workers, since knowledge management helps to preserve the necessary knowledge and present it to decision makers when needed and then make decisions correct medicine in record time. This is consistent with what was stated in the report of the World Health Organization (2016), where it indicated that the main objective of applying knowledge management in health facilities in particular is to work to bridge the knowledge gap as it seeks to develop systems and processes that enhance knowledge in order to create originality, creativity and continuous learning in the health field.

In order to achieve this, as indicated one of the most important areas in which the application of knowledge management appears in the health sector is electronic health, which is one of the patterns of contemporary electronic management, as electronic health provides consultations, services and medical information to the patient through electronic means and prepares medical records Electronic is one of the best pivotal forms on which the process of providing health care depends within hospitals and among the various types of international medical organizations. Electronic medical records do not differ from traditional paper records in their function and purpose, but they are completely different in their nature, characteristics, possibilities of uses and benefits. Accurate content and ease of access through its integration with various information sources through information network systems. Knowledge plays an important role in the health sector, where the circulation, organization and dissemination of knowledge leads to a qualitative shift in the health services provided by relying on knowledge to make appropriate decisions at the right time.

Here, [4] indicates that, as a result of the developments that the world is experiencing today and the reliance on information technology in the health sectors, especially in light of the emergence of many uncommon diseases and epidemics such as Ebola and the Corona pandemic, and in light of the conflicting opinions and ideas about diagnosing the diseases of some patients, and the need for Reducing the expenses of the patient's transportation to remote specialized places and the need for medical cooperation, exchange of experiences and sharing of information and expertise in the medical field. It was necessary to have the so-called medical record of the patient appear, so that the patient's medical record is linked and any medical authority can take a copy of the file to follow up the patient's record and the treatments provided in other medical entities. Here, [5] adds that the electronic medical records represent the starting point for many information related to the provision of health care to the patient by health institutions as a result of its accurate content and integration with the information sources available within the framework of information networks available in health systems.

This has been confirmed by many studies, such as the study of Abdul-Mutagali , where it was concluded that electronic medical records contribute vitally to providing more information and medical data that were not available before, and this information can be used for medical and administrative purposes. Which confirmed that electronic medical records contributed greatly to identifying the patient's medical information, diagnosing diseases, and building an important database for each patient that contributes significantly to the detection of infectious diseases or side effects of some medications and drugs, which confirmed that the medical records system In public and private hospitals, he contributed significantly to making the right administrative and medical decisions related to patients' cases or data on epidemics and infectious diseases. We also find that a believer study [7] confirmed that despite the importance and necessity of applying electronic records in health institutions, there is difficulty in exchanging data between all hospital departments, in addition to the application of bureaucracy by senior management in not granting all powers to hospital workers to amend their Data and information in the electronic medical record system, and [2] Al-Harbi's study, which confirmed that the lack of technological knowledge of electronic health record systems among workers in health institutions is considered one of the most important obstacles that prevent the achievement of effectiveness from the application of medical records in hospitals, so through the researcher's knowledge Based on previous research and studies, in addition to his personal experience, he noticed that there is a gap in the role of medical records management in activating knowledge management applications, especially when noting many problems that health institutions face when using the medical record, such as different medical coding systems, and their non-application in many agencies. And health centers, and the different health information systems applied in a number of entities, which leads to a lack of information integration between them, and A severe shortage of competencies capable of dealing with the patient's medical record, a lack of administrative systems that ensure the creation of a unified health file system regardless of the medical service provider, and a severe shortage of budgets allocated to health projects in general, and Saudi hospitals are one of the institutions that suffer from such Problems, and from the foregoing, the problem of the study centered on the lack of studies that dealt with areas, opportunities and obstacles to support management operations.

The current study coincided with the interest of the Ministry of Health in the Kingdom of Saudi Arabia in health services and raising the level of their quality in line with the goals of the Kingdom of Saudi Arabia 2030, which stresses the importance of building a comprehensive and effective health system in order to provide health care to citizens and residents in the Kingdom of Saudi Arabia and to establish integrated health care systems to improve Health care in the Kingdom of Saudi Arabia, where the importance of the current study is formulated in the following:

- On the scientific level: In the fact that the study is considered a scientific value in explaining and clarifying the role of knowledge management applications in the management of medical records
- At the applied level: in that the study provides an effective model for adopting knowledge management applications in the development of medical records management in health institutions

- At the specialized level: in that the study presents results and proposals that contribute to the development of the private health sector in the Kingdom of Saudi Arabia.

2. THE RESEARCH PROBLEM AND METHDOLOGY

When designing an automated information system, the degree of growth in the size of the hospital in the future and the changes that may occur to information in terms of quantity and quality must be taken into account. It is necessary to study the economic feasibility of the system before applying it and to ensure the availability of the necessary material and human capabilities to sustain it. The administration must develop an integrated plan for the transition from paper records to automated and electronic records, through a clear plan of action for everyone who works on and uses this system.

The current research problem includes the following main fundamental question:

- What is the role of medical records management in activating knowledge management applications in private hospitals in the Kingdom of Saudi Arabia?
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This question stems from the following sub-questions:
- What are the most prominent medical records management practices in private hospitals in the Kingdom of Saudi Arabia?
- What are the requirements for the success of medical records management in activating knowledge management applications in private hospitals in the Kingdom of Saudi Arabia?
- What is the impact of medical records management on activating knowledge management applications in private hospitals in the Kingdom of Saudi Arabia?
- What are the obstacles that hinder the management of medical records in private hospitals in the Kingdom of Saudi Arabia from applying knowledge management?
- What are the basic elements of the model that supports the contribution of medical records management in supporting and activating knowledge management applications in private hospitals in the Kingdom of Saudi Arabia?
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In view point of the research methodology, we'll use the following:-
- The methodology used in the study is a descriptive approach / case study to identify the details of the administrative work in United Doctors Hospital and Al-Jadaani Hospital, the administrative system used in the management of medical records, decision-making procedures, available capabilities and equipment, and future plans

- The tools used: the direct interview with a sample of doctors, patients, technicians, and decision makers in hospitals to get their views on the state of the administrative system used in medical records, the problems they face, and the improvements they demand.
- Review intellectual production to identify modern knowledge management applications and compare them with the current reality and benefit from them in preparing the proposed model
- System analysis methodology to identify the components of the used medical records management system and decision-making algorithms for the purpose of using them in developing the model proposed in the scientific thesis
- Using the statistical package in the social sciences to test hypotheses and organize the analysis of numerical data obtained from personal interviews.

3. MEDICAL RECORD COMPONENTS

The medical record for each patient contains medical and nursing information that covers aspects related to the disease he suffers from, and usually includes symptoms, medical history, results of clinical and diagnostic examinations, final diagnosis, disease condition, medical, surgical and treatment procedures that the patient underwent, the extent of the patient's condition and his response to these interventions and treatments, as well as information Patient identification. In addition, there are general information that should be available to the treating physician when determining the treatment protocol, namely:

- Chronic diseases or health problems that the patient suffers from.
- Medications he is taking or any other type of treatment.
- Having an allergy to a particular drug.
- The surgeries he underwent, along with their dates, the name of the doctor, and a report including a diagnosis of the condition that required the surgery.
- Results of laboratory tests and diagnostic images taken by the patient.
- Family medical history in case of chronic diseases or cancerous conditions and others.
- Vaccines and their dates.
- Previous visits to the patient, what was the diagnosis, the date and reason for each visit.

The medical record consists in its entirety of three basic sections of data linked to each other, which are (Forum of employees of the Saudi Ministry of Health, 2015): Administrative data; Medical data and Nursing data.

Administrative data: It is the initial data that is recorded when the patient arrives and the medical file is opened for him. It consists of everything related to identifying the patient, such as name, civil registry, age, profession, gender, and place of residence. It is considered the primary source for forming the initial perception of the patient and the circumstances surrounding him, or what is known as the patient's environmental or ideological information.

We find that the national number information provides all the data related to identifying the patient, which can play a major role in providing the necessary information to the health authorities about his permanent address and place of residence. The patient or what is known as the diseases that must be reported, such as highly contagious communicable diseases such as Ebola, which may pose a threat to society in the event of its spread and requires follow-up, containment and control in a specific area .

In addition, the registered patient's age may give the attending physician a more accurate prediction about the disease and the expected development of the condition. Each age stage of a person's life has a certain ability to resist the disease or even the severity and severity of symptoms. Young people are usually more vulnerable and more vulnerable to infectious diseases than patients. The elderly, and there are diseases that occur at certain ages and do not occur at other ages, which helps to communicate for a proper diagnosis, and there is also a difference in the body's response to treatment according to the age stage and the body's ability to recover and build in cases of fractures or to compensate for damaged cells in the body, in addition to the difference Pharmaceutical doses according to the age of the patient.

The type of work and the profession that the patient practices is also a good source for forming an idea about the patient's work environment. There are occupational diseases that occur due to the person practicing certain professions, such as working in factories that cause exposure to carcinogenic asbestos fumes, or working in dusty environments such as quarries and cement factories, or the possibility of exposure to gases at work. in foundries and oil refineries. The presence of information about the type of work practiced by the patient provides direction for the course of doubts and the focus of investigation and examination, and that there is infection with certain diseases such as asthma and allergies that may prevent the patient from continuing his work or profession that he practices in the future, and thus directing the patient to modify or change his workplace by moving away from sources of sensitivity.

The place of residence and residence has certain implications for the attending physician, such as what is related to thyroid disease in residents of mountainous places where the iodine content is low, or the patient's sensitivity to staying in certain places such as humid coastal places for patients with fungus, skin and respiratory allergies. In general, administrative data represents the first line and the basis on which many doctors, after viewing it, can develop an initial perception of the condition of the patient in front of them, and form hypotheses upon which a plan and direction of diagnosis and treatment are based. Good and direct in diagnosing and treating the patient **Medical data:** It is everything related to the information and notes that the doctor records and puts on the various sections and forms (forms) in the medical record during his

examination of the patient, including measurements, examinations, results and tests in order to compare the extent of their conformity or distance from the normal limits, which he accompanies and infers in order to reach a diagnosis of the condition patient's disease and develop a treatment plan for him. The data includes recording the patient's medical history after listening to his complaint, then recording the symptoms, observations and changes that appear on the patient through the virtual examination carried out by the doctor according to a specific professional method according to the patient's medical condition. In general, medical data includes the following paragraphs:

✓ Results of laboratory and clinical examinations and tests.
✓ The different types of diagnostic radiation from X-rays, ultrasound, and magnetic images, and the doctor's observations and opinions on these results.
✓ The evolution of the patient's condition before and during treatment.
✓ The type of medical and surgical procedures and interventions, and the proposed treatments, or those that have already been applied to the patient before.
✓ The extent of the patient's progress and response to medical and surgical interventions.
✓ The diagnosis and treatment method chosen by the doctor.
✓ A statement of the details of the doses, their dates, or the procedure of surgical interventions, their description and results.
✓ Proposed therapeutic and rehabilitative medical instructions and directives.
✓ The patient's clinical follow-up notes, interview dates, time periods, and their date.
o **Nursing data:** It constitutes a third that is no less important than the above, in which nursing notes are fixed and recorded around the clock, which monitor any changes that occur to the patient, whether these changes are negative or positive, which provides the doctor with an integrated picture of the extent of the patient's response to the established treatment plan, in a manner General nursing data includes:
✓ Ensure that medical instructions and directives are strictly implemented.
✓ Writing down and recording the patient's routine examinations and measurements around the clock, such as blood pressure, temperature, pulse, or any other physiological variables determined by the doctor.
✓ Recording data for the provision of treatment, medications and fluids, their doses and times, as directed.
✓ Carrying out the doctors' instructions and directions regarding the patient's exercises and movement.
✓ Nursing observation of the patient and conveying information about the positive and negative changes that may occur to the patient and submitting notes to the attending physician in a timely manner.
✓ Follow-up and provide emergency procedures for inpatients.

As for Abdel-Hamid [3], he believes that the electronic medical record consists of a complete statement of the person's medical history, the diseases he suffered, and the methods of treatment he received, in addition to the medicines that were prescribed to him, and focuses on the medical phenomena that may affect his health in the future.

4. CONTEMPORARY MEDICAL RECORDS AND RECORDS PATTERNS

The medical records took several forms before reaching the current contemporary style or form, which resulted in the modifications and development of several primary models, the most important of which are:

o **The old model:**

This model is more of a method or method than being a specific model, as it relied on putting the papers and test results of the patient inside an envelope (file) according to their chronology without indexing or sorting by specialization. It is highly dependent and its quality varies according to the interest of nursing medical supervision in the details of its components, including papers, results and their arrangement. Among its disadvantages is the possibility of losing or mixing the results, as the focus and viewing is usually on the latest existing results. There are many important observations and examinations that may go unnoticed or focused on, amid a huge amount of results, examinations, and pictures.

o **Aldeburgh model:**

It is attributed to the British city of Aldeburgh, and in this type of medical record, a number of ready-made cards are used inside the medical record file, amounting to about six cards. These cards containing paragraphs and points are used to write down various information about the patient. These commas and cards are a more specific and customized system for tabulating the medical record, which are:

- **Patient information card.**

• Family history card and disease record.

• Medical summary card, examinations and diagnosis.

- **Prescription registration card.**

• Prescription and re-prescribing card.

• A follow-up card for the next visits in which the new patient's data is recorded.

One of the advantages of this type of model is organization, accuracy, and not neglecting the small details that may constitute pivotal points during the patient's treatment, but it lacks simplicity and ease of linking the details that are of great importance.

o **Targeted Priorities Model:**

It was proposed by Dr. Lawrence Wade in the year 1968 AD, and he is considered globally as the father of the modern vision of medical records, which he began to implement in the year 1969 at Foster McGraw Hospital and its affiliates in England. This form contains:

Patient's personal information and medical history.

- List of diseases and health problems of the patient.

Basic treatment plan.

Follow-up the daily development of the patient's condition.

- Final report and discharge permissions of the patient.

One of the advantages of the targeted priorities model is ease of use and the ability to monitor and evaluate the content easily and easily. Many clinics still use it so far, especially small private clinics. In this type of medical record, it focuses on what is believed to be the first part of focusing, monitoring and checking the patient's condition in particular. And the study of everything related to his condition based on the study of the environment surrounding the patient, his age, his work, and the conditions that are believed to be the cause of his illness or the aggravation of his condition, and work on his treatment, and one of its advantages also is that it is used well in that it can follow up good cases of multiple problems.

5. MEDICAL RECORDS FUNCTIONS & OBSTACLES

Electronic medical records perform functions mentioned in that they provide information on the numbers of diseases, deaths, births, medical reports and birth certificates in addition to certificates and reports related to criminal cases. Electronic medical records also help in linking with all hospitals, health centers, doctors, patients, doctors and designated departments in health institutions.

As for [5], they believe that electronic medical records perform functions represented in the ease of access and security of information so that it can be retrieved at any time and place and manage this information with high efficiency, and provide complete information about patients, which enables monitoring of his condition and adjusting his care according to emergency variables. Electronic medical records also enable knowledge of preventive aspects, statistics, research, training and health planning information that facilitate the work of health institutions.

The Obstacles to the application of medical records can be summarized as follows: There are many obstacles that hinder the application of medical records in health institutions, and these obstacles were mentioned by [5] as follows:

✓ Users need for information, as there must be a system capable of achieving effective communication between doctors and those in charge of this system and knowledge of its use by employees of health institutions
  ✓ Ease of use, as it is necessary for developers of electronic systems to develop systems that are flexible and easy to operate and deal with
  ✓ Standards where it is necessary to achieve high health standards, work must be done to reduce errors and costs, and to raise the level of development and improvement of these systems in line with modern technologies.
  ✓ Social and legal challenges, where it is necessary to raise the level of security and confidentiality of electronic medical information through a system capable of facing cyber-attacks and retaining patient information and data
  ✓ Providing electronic record systems capable of performing at the highest level of efficiency and low costs, as many health institutions face the high costs of some electronic systems.
  ✓ The flexibility of systems for change and development, as health institutions fear the development of their electronic systems, because any change in them will negatively affect their performance.
  ✓ Resisting change by employees of some health institutions and refusing to apply electronic medical records systems

6. MEDICAL RECORDS MANAGEMENT IN ACTIVATING KNOWLEDGE MANAGEMENT APPLICATIONS

There are many goals that are achieved by activating knowledge management applications through the management of medical records in private health institutions, as mentioned by [1] as follows:

✓ Maintaining continuity of information and data flow
✓ Providing mechanisms for checking information sources
✓ Organizing and analyzing information
✓ Investing information in the various fields of the health sector
✓ Save information and retrieve it when needed.

✓ Developing and improving decision-making processes, especially with regard to health services
✓ Developing health services to the highest level of efficiency and effectiveness
✓ Improving internal processes in health institutions to control costs.

There are many requirements that must be met to ensure the success of activating knowledge management applications in the management of medical records in health institutions, and these requirements were mentioned by [8] as follows:

✓ Availability of the necessary technical infrastructure to ensure the success of knowledge management processes and applications in health institutions

✓ Qualified human cadres to activate knowledge management applications in managing medical records in health institutions

✓ The organizational structure that supports the knowledge management unit and links it to other units and departments in health institutions, in addition to the internal organization of the knowledge management unit that allows it to perform its required tasks and create space for workers in creativity and development

✓ Raising the level of workers in health institutions with the importance of knowledge management applications and the benefits accruing to health institutions and the health sector from adopting knowledge management

✓ The strategy specified by the senior management of private health institutions, which encourages workers to participate in the production and exchange of knowledge.

6. THE ROLE OF MEDICAL RECORDS MANAGEMENT IN ACTIVATING KNOWLEDGE MANAGEMENT APPLICATIONS IN PRIVATE HOSPITALS

There is an impact of knowledge management on health records to improve the quality of health care services, through the theories and practices of knowledge management and the possibility of facilitating narrowing the gap of patient medical records, which will eventually move to improve the quality of health care, which can be assessed through the quality management model ..

We also find the relationship between knowledge management and health record to improve health care quality by examining theoretical ideas about knowledge management, health record and decision support system, clinical practice guidelines and ontology to narrow the decision-making gap..

We find the extent of the use of electronic business in Saudi hospitals, and identify the information infrastructure of hospitals to obtain accurate information about the status of information technology and the readiness of hospitals to use electronic business and stand on the readiness of Saudi hospitals to provide electronic medical services (Al-Sudairi, 2014).

Medical record programs help control every aspect of patient care in health follow-up, starting from general services to following up on patient records, prescriptions, and bills. In addition, the electronic medical record program can provide a portal for direct communication with patients so that they can book appointments and see results.

The electronic medical record should not be confused with the electronic medical follow-up program because the electronic medical record is a broader platform to deal with all aspects of patient follow-up, while the electronic medical follow-up programs focus more on patient records directly, however, there is some overlap between this The two types

of programs where some electronic medical follow-up programs contain built-in capabilities, and have management aspects that are usually found in the electronic medical record, and in both cases it is likely that the advantages of these medical programs will witness more intersection in advantages as the quality of patient-oriented services increases in terms of scope and capacity To integrate with other software packages..

The relationship between knowledge in the health field and behavior of seeking health care in resource-limited settings during the Corona pandemic indicates; Through the nature of the work of medical records in light of the emergence of the Corona pandemic, as it represents challenges and opportunities for health care, health promotion interventions, and general improvement in health care-seeking behavior

7. CONCLUSION AND FUTURE WORKS

After preparing this research work, we reached to the main finding that assure the most important benefit of electronic records is quick access to patient information with special notes about the condition and the ability to share it with other doctors, health care providers, insurance companies, pharmacies and diagnostic centers, so that that information becomes faster and more traceable.

Doctors can reach an accurate diagnosis more quickly by easily viewing patients' test results and checking past results or any medical practices the patient has undertaken in the past. The use of electronic records allows healthcare providers to have real-time access to a patient's record from any computer. The electronic record can provide up-to-date information on a patient's complete medical history, including current test results and recommendations of other physicians, allowing for more effective collaboration in multiple aspects of a patient's care. Clinical practitioners can quickly transfer patient data to other departments or providers, with fewer errors leading to better management of outcomes.

These records ensure that the patient gets a better diagnosis with a very low error rate, as the patient gets advice and preventive measures that contribute to improving the management of his disease. This flexibility in accessing complete patient records means you don't have to fill out the same paperwork and data at every visit to the doctor because the results and images are all in one place. The result is better management of disease conditions, particularly chronic conditions, better care and more accurate diagnosis.

The automated analysis programs facilitate and simplify the process of analyzing data collected from patients and different departments within a hospital, clinic or medical center, and extract many different reports and keep that data for you. Remark software makes it easy for you to collect and analyze your medical institution's data, as you can quickly and accurately evaluate training programs and employee satisfaction. It will provide you with effective ways to collect and analyze data that you deem important and useful for the success of your medical institution, whether it

is a clinic, hospital or medical analysis laboratory. Instead of reviewing and analyzing the data of the traditional paper forms that you use to collect data, all you have to do is scan it and Remark will analyze its results and issue instant reports to you to help you evaluate the overall performance of your organization and make sound development decisions based on accurate data. So, we can use the Remark Office program to process and analyze the data of paper forms, as the program allows you to design forms and print them yourself without the need to purchase ready-made forms. Finally we can say that the major benefits of using the EMR can be summarized in:-

- **Less paperwork and more storage**

Benefiting from electronic medical records is not limited to the doctor and the patient only, but the hospital administration is one of the beneficiaries most due to the time, effort and costs required by administrative tasks, as the various parties in any health facility spend a long time filling out paper forms for each patient. However, electronic records are paperless, which contributes to the simplification of routine tasks, and with the decrease in the amount of paper, there is no need for large storage spaces; With instant storage and retrieval of digital files, healthcare providers' offices are less crowded.

- **Raising the level of quality**

Electronic medical records provide the ability to exchange complete information about the patient in record time, which is accurate, up-to-date and comprehensive information, which naturally leads to an increase in the quality of care that the patient receives, starting from diagnosis and ending with reduced errors. By sending automatic reminders for visits and preventive procedures, patient records can help patients better manage their conditions and participate more in their healthcare. E-prescriptions also allow physicians to communicate directly with the pharmacy, reducing errors and saving time by eliminating lost prescriptions. Patient safety has been improved, as electronic prescribers automatically check for potential drug interactions.

- **Raising efficiency and productivity**

Electronic health records are more efficient than paper records because they allow quick access to the patient's file and obtain information related to it that health care providers need in record time and from anywhere, in addition to the ability to inquire about a specific case with other doctors, pharmacies and diagnostic centers, which is a faster method. More traceable, and reduces missed messages and follow-up calls. Simplified management of electronic files and records, integrated scheduling between different stakeholders, and automated coding all increase efficiency and increase productivity.

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