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Health Informatics

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Introduction

Health Informatics deals with data storage and retrieval, advanced tools/machines, methods required to optimize the acquisition (processes), and use of information in health and biomedicine which comes from different modalities, such as Electronic Medical Record (EMR), Electronic Health Record (EHR) and Electronic Health Object (EHO) [1].

Health Informatics covers a multidisciplinary field that ranges from;

- Data Informatics
- Decision Support Systems
- Telemedicine
- Consumer Health Informatics
- International Healthcare Systems
- Global Health Informatics
- Translational Research Informatics
- Information Security
- Data privacy
- Artificial Intelligence
- Healthcare

Problem Definition

An increase in child mortality, maternal death, and undetected diseases kills people either rich or poor if certain measures are not in place. The Minister of Health, Prof. Isaac Adewole once said "early detection and treatment are crucial to ensuring the best outcome against oral diseases and associated health complications". *Early detection is the key to the cure* of many terminal diseases. The rates at which people die because of minor cases are high and sad while some of this death can be avoided, treated, and cured if detected earlier. Old ways of retrieving patients' folders from the shelves give room for long queues in the Hospitals and this discouraged many from patronizing medical hospitals. The use of old medical machines/tools in this 21st century doesn't give accurate diagnoses of diseases. Hence, the need for new technological health systems should be used [2].

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Aim/Goal of the Study

The research aims are to increase the healthcare quality given to people, to also promote healthy lives and the well-being of everyone, and to access health facilities irrespective of your location and without age differences.

Research Objectives

The objectives are to:

- Create a secure model that will allow access to data, storage, and processing easier.
- Create a user-friendly system so that the health care system will be equitable with modern/advanced technology machines and tools.
- Reduce geographical location/boundaries as barriers from access to healthcare services anytime and anyplace with the use of professional and modern tools.

Literature Review

The adoption of healthcare informatics that blends technology with practical concepts has largely been embraced in the industry. Health informatics as a field of study provides the promise of a robust health data infrastructure with many benefits. Those benefits include the ability to offer faster, more inter-operable and accessible patient records; a reduction in errors; a reduction in redundant testing; and the production of more complete, accurate healthcare records, retrieval of data without location any barrier, modern machine used for medical treatment and using machine learning to detect asymptomatic (no symptoms) diseases before it manifest. Healthcare organizations strongly depend on Information Technology (IT). Many E-Health initiatives to improve healthcare efficiency and effective delivery have been widely proposed. Electronic Medical Record (EMR), Electronic Health Record (EHR), and Electronic Health Object (EHO) which are Heath Record Systems are used extensively for flexibility and efficient service delivery.

Electronic Health Object (EHO) was developed by Object Oriented Approach which allows usability and extensibility. Electronic Health Object (EHO) is more flexible that EHR and EMR. According to International Organization for Standardization (ISO), EHR means a repository of patient data in digital form that stores, exchanges, secures data, and can be accessed by multiple authorized users. It contains records of patients for a long term by multiple providers. EMR is an electronic medical data and reports about patient conditions, images, physiological signals, checkups, medical treatment, video, and medical forms. It is owned by particular healthcare.

Methodology

This research will make use of Object Oriented Approach (OOA) which is Electronic Health Object (EHO). This creates an interaction with other patients or medical practitioners via the Social Media created by EHO, patients can have access to their data however, not all data are visible to them, and they cannot also update or edit their data. There is a restriction to what they can do on their module, access is limited [3-6].

Outcomes

The outcome will improve the quality of health care delivery; it will increase efficiency, transparency, and clarity in medical records; decrease medical errors; provide easy access to consolidated patient records; reduce physician mental workload; decrease duplication of medical tests, and reduce staff time in locating and extracting data.

Conclusion

Healthcare organizations cannot erase the importance of Information Technology (IT) in health delivery. Making use of advanced technology for health treatment will enhance good governance and reduces the mortality rate. It will make service delivery easier and stress-free, access to personal data anywhere in case of emergency through the means of identification (face recognition, fingerprint, etc.), and good treatment given to patients when visiting the clinic.

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