

The Importance of Health Informatics

Andrell Hudson

Nightingale College

Professor Hanridge

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Introduction

Today, the world has undergone a tremendous technological development. Customers' demand for goods and services has increased, the competition has gone high, and customer preference has changed. Hence, companies are left with no other option to upgrade their operations to computers and maximized their levels of innovation to match the constant market pressures. The Healthcare industry is not different from any other industry. It requires skilled labor, advanced technology, an increased efficiency, and sufficiency level to survive the market pressures (Hussey, 2021). Through the continued increase in demand for a technology-bound healthcare, ninety percent of healthcare systems have adopted various informatics in their operations to ensure that they cope with external and internal pressure to improve the general patient outcome (Hussey, 2021). This paper aims to assess how the information system services have helped increase the general role of nurses to improve patient health outcomes.

What is health informatics?

The term “health informatic” are used to describe the study of computers to improve procedures and outcomes of healthcare services (Sullivan, 2001). Health informatics use computers to assist the gathering, storage, and processing of information to improve health organizations and patient outcomes (Sullivan, 2001). According to history, health information systems (informatics) became effective when the computer became more integrated to manage a large amount of data. Health informatics involves

incorporating technology or information systems in a business, company, or institutions' operations.

Background information

Before the full implementation of the information system in healthcare, experiments were done in the dentistry field. However, the experiments were not effective until the 1960's when its standardization took place (Iyengar, Kundu, & Pallis, 2018). According to Healthcare Information and Management Systems Society, healthcare industry data reporting (ASTM) is the first standard. The standards include laboratory message exchange, properties for electronic health record systems, data content, and health information system security.

Healthcare informatics refers to the integration of sciences, information science, computer science, and cognitive science to enhance healthcare information management. Healthcare needed a system of intervention that will improve the environment and ensure that patients have the best services. Therefore, informatics in healthcare was introduced to enhance communication among the nurses and the physicians. Health informatics guarantees the privacy of the nurses and patients. Also, it ensures work pressures and burnouts are well below average. Health informatics were perceived to be beneficial by limiting the cost of healthcare visits to the patients, allowing patients to express their conditions to the physicians privately, and enabling them to track their treatment records.

Need for health informatics

Patients are the primary concern of health care. Professionals who offer patient services are expected to always be in an excellent position to deliver such services (Flynn

et al., 2017). Informatics are needed to enhance treatment plans and improve patient outcomes. Health informatics help the healthcare institution track its record of activities and engage in nursing training. Informatics is meant to enhance communication among the staff members and make the overall operation of the institution more effectively. The technology enables nurses to learn more about the patient's condition and treatment through evidence-based practice. The information learned can easily be shared among nurses to improve their health outcomes. Information is an asset in the nursing profession since it impacts the caregiving process by a more considerable margin.

The introduction of the new terminology for specific disciplines and services are what shaped the first medical record. Health professionals and government agencies have worked to come with better patient registration techniques, observations, financial transaction messages, insurance claims, and discharge. The continued increase in the world population, the demand of healthcare, and the availability for health professionals have become limited. This issue forced the healthcare systems to develop means through which many patients can be adhered to without necessarily visiting the health centers (Gu et al., 2017).

Patient participation

Healthcare professionals transmitted patients' relevant information from the hard copies to soft copies forms by biometric techniques. The use of biometric techniques helps healthcare professionals access information more quickly and make better decisions over patient's health conditions (Hussey, 2021). The process motivates and empowers patients to take part in their treatment plans. This action motivated many patients and ensured their health is a priority. Technological advancements, such as patient electronic

health records, allow patients to understand their health condition and coordinate with the caregiver to make valuable decisions that improve their health.

Types of health/nursing informatics

There are many types of health/nursing informatics. These include medical, clinicals, pharmacy and public informatics. Medical informatics involves combining a combination of healthcare and technology. The goal is to improve the management of patient data, clinical knowledge, population data and patient outcomes through medical and computer skills (Wyatt & Liu, 2002). Medical informatics, in many cases, is referred to as the hybrid field since the professionals here draw on expertise from both disciplines to put technology to inappropriate use in healthcare.

The primary role of medical informatics professionals is to create and maintain new ways for medical facilities and practices to keep electronic health records (Hussey, 2021). Medical informatics professionals improve the communication between healthcare providers and facilities to ensure that the best patient outcomes are met. Other potential roles of medical professionals include storing, managing, and analyzing health-related data for the sake of medical research.

Clinical informatics is the study of information technology and its healthcare applications. Through this process, physicians, dentists, nurses, rehab therapists, assistants, pharmacists, and many other medical practitioners use this technique to collect and share data to develop and implement a treatment plan for a patient. This technology helps healthcare workers collect and distribute relevant information that improves the patient's overall health outcomes (Gu et al., 2017). Owing to the sophisticated nature of

health today, caregivers depend on data and technology to provide treatment for their patients.

Pharmacy informatics is a scientific field that dwells on medication-related data and knowledge within the continuum of the healthcare system. The field of Pharmacy informatics focuses on many health-related processes starting from the acquisition of information, storage, analysis, use, and dissemination or transfer from one media to another for the sake of making human life better. Through their roles of overseeing medication-related information available in the health-related tools, pharmacy informatics uses this technology to generate and disseminate information within various health professionals and institutions to ensure patient safety. By using information technology solutions, pharmacy informatics improves patient outcome (Gu et al., 2016).

Another important aspect of healthcare that nurses or medical practitioners must focus on to ensure that the general health of the public is improved is public health informatics. Public health is a broad field in healthcare. Public health informatics is vital. It serves as the first step in large-scale analysis of diseases. As a nurse, information in healthcare is treated as a resource despite the difficulty of collecting and analyzing data (Gu et al., 2017). Therefore, the inclusion of informatics in public health helps translate health-related information for the practitioners through data interpretation into the preferred language. In public health, informatics is essential since it can enable efficient monitoring and surveillance, improve the health of the population, and support improved decision-making vital in healthcare. Public health informatics ensures nurses the right technologies to make better timely delivery of health quality data and offer much input in data-driven decision making. Informatics in nursing is highly important.

Patient education

Since its introduction, information systems or health informatics have contributed series of revelations in the healthcare system. Many improvements have taken place in the healthcare field. Health informatics will ensure that the current demand for healthcare services is met. Through health informatics, nurses and healthcare organizations learn and access valuable information, which is then transferred to the patients and public. Evidence-based education helps patients and the entire community prevent diseases and reduce injury risks. There are many health problems or health-related concerns that can best be controlled by educating the public (Hussey, 2021). Cases such as hypertension, mental illness, drug abuse, cancer, and chronic are declared the leading source of human deaths in the United States. However, these conditions can be managed at a primary stage through education. Health informatics allows nurses to conduct more education to the public or the patient in the hospital, through electronic-enabled devices.

Treatment coordination

In many cases, patients have experienced severe health conditions or lose their lives due to the shortage of caregivers (Iyengar, Kundu, & Pallis, 2018). Through a technology-enabled care plan, this can be prevented. Healthcare professionals can easily coordinate and decide on the best treatment based on the patient's condition by health records and information system. Health informatics creates an opportunity for health professionals and healthcare institutions to save lives and make patients' lives better.

Improving treatment plans is the main benefit of informatics in nursing. By taking patient information more quickly and accurately, reduces the chance of wrong treatment plans of patients. It is also used in advising the patient on improving a high level of

accuracy to avoid injuries and losses. Manual care has always shown series of shortcomings that have threatened the health of patients and the general community (Iyengar, Kundu, & Pallis, 2018). Therefore, incorporating technology in the caregiving process plays a vital role in enhancing accuracy, starting from data collection, storage, analyzing, interpretation, and application.

Reduced cost

Providing healthcare is costly. Some redundancies and inefficiencies cost the service provider and the patient. Thus, data is cost-effective to both the patient, caregiver, and the health organization. Many people do not get treatment. Only those individuals or families that are well-off can afford the high cost of treatment and the physical meetings with the practitioners (Iyengar, Kundu, & Pallis, 2018). However, through health informatics, every individual can access treatment without traveling to the health center. This process cuts out related expenses such as transportation cost, bed-rest cost, or costs related to admission. The process makes healthcare cheaper and affordable to everyone.

Improved outcome

As the primary goal of every healthcare professional and institution, informatics in healthcare ensures that the patient's general health outcome is improved (Gu et al., 2017). The technology of health informatics gives an opportunity to understand the patient conditions better, innovate corrective measures, and assist in training and sensitizing the public over health-related issues. Health informatics enables accuracy in gathering information, increased communication among the practitioners, advanced participation of patients on their care plans, and an opportunity to disseminate valuable

health information within the health facility. All these processes aim to make the general health outcome of the patient better.

Health information technology has continued to improve through standardizing data exchange protocols for areas such as pharmacy and radiology. Nursing is a dynamic profession, and the future only belongs to creative and analytical informatics who can serve as a link between the informatics, and the professional's team. Not all nurses can have the opportunity to acquire further studies in nursing, such as a Doctorate in Nursing or any other form of learning (Hussey, 2021). The potential conditions that can limit nurses includes workload in the workplace, lack of funds to pursue further education or the preference for the operation level. Thus, those who get the opportunity to get higher studies will use nursing informatics to disseminate information among the staff members hence improving the general process of care.

Conclusion

In conclusion, the health industry has endured many changes. There were many loses before introducing information systems in the healthcare industry and the nursing profession. There were many healthcare mistakes, patients lacked knowledge on their health status, and the general outcome of the community health was poor. Thanks to the introduction of health informatics system, healthcare has advanced. Patient participation has improved, fewer mistakes, lower cost of treatment and improve general outcome have benefited. Many health institutions should strive to adopt health informatics since it enhances caregiving accuracy. Heath informatics creates more opportunities to make the patient conditions better without incurring any losses.

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