

Digital Literacy in Healthcare

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Introduction

In the current, interconnected, and tech-driven world, digital skills have become integral in the day to day lives. Digital literacy defines all the information technology skills that are needed for the current 21st century (Khezr et al.,2019). A digitally literate person has the requisite competencies for finding, evaluating, sharing, and creating content by use of the internet and information technologies. Several studies have demonstrated the importance of efficacy in digital skills among healthcare providers. Digital literacy enables healthcare providers to maximize the potential of technology to improve patient care (Smith et al., 2020). The healthcare professional need to be equipped with digital skills and confidence across a range of domains which encompasses the ability to use the daily ICT software including Microsoft excels and word and the competencies required for processing digital content and information, communicating digitally, and learning new digital skills(Smith et al., 2020). Therefore advanced digital literacy is crucial among healthcare providers as it provides greater accessibility, flexibility, collaboration, innovation, and more effective participation and communication.

The Use of Contemporary Technology in Healthcare

The use of modern technology in healthcare is rapidly growing. In 2018, digital healthcare was valued at about US\$ 88 billion and it is expected to go above US\$500 billion by 2025(Smith et al., 2020). As patients are continuing to require more progressive solutions and improved quality of services, healthcare providers are looking for more advanced innovations to remain relevant and hence the clinical operations. Many patients have over time benefited from the adoption of virtual reality, augmented reality, telehealth, artificial intelligence, the internet of medical things, and other emerging technology. The medical application of augmented reality

includes assessment of health conditions, training future surgeons, planning treatment, and clarifying the complex medical subject to the patient (Khezzr et al., 2019). On the other hand, virtual reality is effective for treating mental health illnesses and providing psychological therapy, assisting to perform medical procedures. Virtual reality has helped to increase patient engagement, by speeding up the recovery period, enhancing physical therapy, and raising disease awareness amongst the general public.

The Internet for Medical Things encompasses creating smart systems of health applications and clinical devices that facilitate healthcare professionals to offer improved services and enhance the workflow of medical units (Khezzr et al., 2019). Some of these devices include wearable, sensors, and trackers that permit quick sending of patients' healthcare information to doctors without the need for patients to visit the health facility. The internet of medical things helps to monitor the condition while at home by tracking and measuring the health indicators (Khezzr et al., 2019). Therefore this form of technology is important for creating treatment programs that are grounded on the collected data, thus optimizing the workflow within clinics and hospitals and most importantly saving life/ the market size of the internet of medical things is expected to increase extensively mainly due to the massive adoption of information technology and the rapid development of the healthcare industry.

Further, mhealth is primarily used by chronically ill patients requiring continuous assessment of the health indicators. The use of mhealth has significantly increased with the height of the current pandemic (Smith et al., 2020). Many countries saw a significant increase in the number of people downloading the mhealth mobile app (Kennedy & Yaldren, 2017). Equally, telehealth includes the use of remote non-clinical services including the health personnel education and the remote monitoring of the vital signs. Telehealth encompasses the

use of self-diagnosis applications and online doctor consultations for medical treatment, diagnosis, monitoring, and also interventions. The main significance of the telehealth and mhealth app among physician doctors is saving the time used for traveling and providing urgent solutions to emergency health issues.

Artificial intelligence enhances the workflow in the healthcare industry. For instance, during the outbreak of covid 19, AI played an important role in helping medical professionals understand the virus hence slowing down the rapid transmission of the virus. It aided in the screening of the molecules and thus creating a treatment plan. The clinical application of AI has helped in saving about us\$150 billion in the US (Kennedy & Yaldren, 2017). Equally the robotic process automation has helped to improve the operational workflows of medical organizations by facilitating the mining of medical information and promoting effective analysis of massive data (Ehrari et al.,2022). AI has thus helped in defining the best treatment plan for specific patients. Integrating AI technology in nursing and caregiving simplifies the workflow by creating a treatment plan.

The Use of Technology during Covid

Contemporary technological development has played a significant role in curbing the spread of the covid 19, a highly contagious disease. The technological advanced facilitated quick disease identification that enables measures to be derived to limit the spread of the diseases and disease prevention which are highly paramount (Smith et al., 2020).The internet of medical technology, which is a promising technology comprising interconnected computing services facilitated the transfer of data across the network with no human intervention. Wearable technology such as GPS and Bluetooth technology helped in the monitoring of patients' health

and the daily stress levels while in isolation. The use of drones, AV technology, and robots ensured minimal human interaction limiting their access to the contagious covid 19 patients (Smith et al., 2020). In addition to the Tele Medicine, technology-aided in disease prevention and identification and monitoring of the paramedical staff, the public symptomatic, and asymptomatic COVID positives patients during the pandemic.

Recognized population-surveillance systems usually depend on health-related data from gathered from laboratories and statements of cases identified by medical providers and syndromic investigation networks. A variety of digital data sources were used at the onset of the covid 19 to improve and understand key epidemiological statistics collected by public-health specialists for Covid-19 (Smith et al., 2020). For instance, data dashboards were comprehensively used in the pandemic, organizing real-time public-health statistics, comprising established cases, deaths, and tested statistics, hence keeping the general public informed and supporting policymakers in developing appropriate interventions. Further, digital contact tracing automated the tracing of the infected individuals to a larger scale and speed that is not easily replicable without the use of digital tools (Kuek & Hakkennes, 2020). It helped to reduce dependence on human recollection, predominantly in densely populated zones with mobile populations. Online data sources facilitated early disease detection and controlled the spread of the virus.

The Use of Digital Communication, Collaboration, and Participation in healthcare

Digital communication in healthcare entails the use of digital technologies to communicate appropriately and respectfully with people recognizing one's accountability to not participate in or permit others to participate in responsible and peaceful communication activities (Kuek & Hakkennes, 2020). A digital workplace enables communicative, collaborative, and

participation of all staff thus increasing the productivity of all staff. Digital technologies create an appropriate communications platform for all healthcare staffs to interact and leverage strong communication bonds to work together better and, in turn, become more productive. Therefore the aim of digital communication, collaboration, and participation. It focuses on how people work, join in and collaborate through digital means. For example, the use of electronic software in healthcare facilities enable the physician to send prescribing information to pharmacist electronically, reducing the likelihood of errors and fraud (Kuek & Hakkennes, 2020). Health information technology helps in improving patient safety by decreasing medication mistakes, decreasing adverse drug reactions, and improving acquiescence to practice strategies. There is no doubt that access to health information technology acts as a significant tool for improving healthcare safety and quality.

Digital technologies diminish patient-related barriers by providing a level of privacy and offer benefits to patients who need an interpreter to consult. It otherwise does not affect a lack of capability to interconnect with healthcare professionals, or lack of contention and information about health services. Most importantly, Digital communications can aid in developing a person-centered attitude to care, comprising improving face to face engagement, developing and maintaining interactions, facilitating early problem identification, saving time, increasing affluence and elasticity in access services, encouraging and increasing patient confidence (Kuek & Hakkennes, 2020). Further, digital collaboration influences technology to advance collaboration, communication, paper management, data management, and ease information flow across the organization leading to improved workers' efficiency and productivity (Ehrari et al., 2022). There are several benefits of application technology in healthcare, comprising: providing service users with additional control over their health, wellbeing, and safety (Clipper, 2020). It

helps in comparing and capturing data and sharing good practices with peers. For instance, Mobile technology can authorize patients and careers by giving them more control over their health and making them less reliant on Healthcare providers for health information (Nouri et al.,2019). Digital technology enables healthcare providers to research for information online, share experiences and find treatment preferences.

Digital identity and wellbeing in healthcare

A digital identity captures an individual's online activity, biometric interactive data, and other significant characteristics that permit individuals to login into the online community to interact freely. Identification is important for effective and efficient delivery of health services and public health management and is thus influential for accomplishing supportable development goals (Nouri et al., 2019). Digital identity allows healthcare providers to recognize a patient's identity through access to pertinent medical and treatment antiquities this ensures the provision of appropriate and consistent care (Clipper, 2020). Healthcare technologies enable ease of patient documentation to prove registration in insurance programs or other safety nettings that shield medical expenditures.

Digital literacy for employee's wellbeing

Digital health literacy, or e-Health literacy, is the use of digital literacy skills in health. It has been defined as the ability to seek, find, understand and assess health information from electronic resources hence the apply the knowledge gained to address and or solve the health problem. With digital literacy, patients can effectively utilize digital apps such as mHealth and use them accurately and properly, and convince them with suitable health data essential for expressively enhancing patient engagement (Nouri et al., 2019). Equally, digital health technology is vital for improving health knowledge doesn't just aid patients comprehend and

involve in their care; it can also decrease healthcare costs. Clipper (2020) increased utilization of digital tools such as health is associated with increased use of preventive services and which usually the hospitalization rates. That transforms into improved outcomes and reduced healthcare costs. Digital literacy provides patients with the ability to recognize, describe and examine information requirements, and, repossess pertinent and suitable information. Information Literacy is important for evidence-based healthcare. Digital literacy is indispensable for collaboration, communication, and encouragement in the realm of healthcare (Smith et al., 2020). In the present technological world, patients have become more empowered and often turn to social media and the Internet for medical information by utilizing the available digital device and apps. The patient thus has more control over their health.

The Relevance of Technical Proficiency for Data and Information Handling In Healthcare

Technological devices provide healthcare providers with easier access to patient information. This assists nurses and doctors to find faster solutions to underlying patient issues resulting in better outcomes. Technical proficiency enables Health professionals to communicate with policymakers and those in information technology, substitute as a link between the two grounds. Improved data leads to improved care (Nouri et al., 2019) . The direct accessibility to evidence where it is required allows for quicker response and more improved treatment. With technical proficiency, the Health care team can easily coordinate integrated data sets. Proper information handling leads to improved patient safety by decreasing medication errors, decreasing hostile drug reactions, and enhancing amenableness to practice strategies. There is no uncertainty that proper handling of health information technology is a significant tool for improving healthcare safety and quality and safety (Smith et al., 2020). Informatics provides an instrument for patients to deliver their clinician(s) with crucial information, and share the

collected information with friends, family, and other patients. This data may allow patients to apply better control over their care.

In conclusion, the recent technological development has transformed the delivery of care in changing healthcare facilities. Technology has enabled organizations to become more agile with their operations, reducing expenditures and increasing incomes. Healthcare professionals need to be equipped with digital skills and confidence to apply technology across a range of domains of the healthcare domain. Advanced digital literacy is crucial among healthcare providers as it provides greater accessibility, flexibility, collaboration, innovation, and improved patient outcomes. Patients have gained more control over their health due to increased accessibility of health information on the internet and also across different social media platforms.

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