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Aging and Digital Health

The aging population continues to increase significantly while on the other hand, the utilization of technology in the healthcare industry is also increasing substantially. Therefore, this poses a risk to the healthcare providers. Healthcare organizations have a responsibility of working towards ensuring enhanced well-being and improving the quality of care. However, as health care organizations all around the world are learning to deal with the growing aging population of both patients and physicians' majority are looking towards digital technology in assisting in promoting care for the elderly. The topic is a trend because considering that digital technology in healthcare is improving at a higher rate and increasing the quality of care, hospitals need to adapt considering that majority of the physicians with enough experience are old and behind the technological era.

As the population continues to get old, more digital systems in health need to be used to increase the quality of care. For example, in this topic, telehealth is a trend that will be utilized to deal with the increasing number of both patients and physicians as it will reduce the problem of distance (Lazar et al., 2018). This will save both time and space between the physicians and patients and offer the right care to patients whenever they require without patients moving from their homes. Also, other technology trends such as the use of the internet of things and artificial intelligence have indicated an inordinate potential in enhancing independent living, promoting mental and physical health as well as improve quality of care. This paper will focus on aging and digital health and how digital trends such as telehealth will enhance the quality of care to the aging population in healthcare.

Background

People around the world are surrounded by technology in their lives, from the way they work, live and are treated. Therefore, the older population is no exemption. The aging population will need to incorporate more digital health technologies to enhance their quality of life. Moreover, according to Shaw et al. (2017), sixty-seven percent of people who are more than sixty-five years of age in the United States use the internet and forty-three percent have smartphones. While most health care services are shifting to digital for example through the telehealth and other systems which monitors patient while at their home as well as communication between physicians and patients enhanced the rate of old aged individuals accessing digital devices is still low.

According to Dinesen et al. (2016), the predilection of aged individuals to age in place or to stay in a self-reliant home rather than supported facilities is extensively known. Furthermore, those who get disability and cannot age in place are expected to be taken in aided amenities. Therefore, the deterioration of aged individuals being unable to cater to their requirements are among the challenges that make it challenging to sustain a self-governing existence. Also, this always results in more substantial physical and mental weakening, deterioration of the quality of life and augmented cost of care as related to aged individuals who stay independently (Harmand et al., 2014). Effectual ways of offering sustenance for aged individuals are essential for both public health and ethical implications.

Moreover, technology advancement and incorporation in the health care industry has had both advantages and implications for aging patients and physicians. For example, the technologies such as artificial intelligence and the internet of things have indicated more advanced ways of caring for aged individuals and caused increased challenges to the aging physicians as they will need to be trained again concerning their usage. Also, technology helps in

decreasing caregiver work that can result in increased quality of care. Nevertheless, regardless of performing an essential role in interventions, the implementation of telehealth technologies has been inadequate (National Institute on Aging, 2016). One of the major challenges in the implementation of the technology is the design procedure used. The top-down procedure is mostly utilized in developing technologies for aged individuals because it is based on implementors' presumptions on the requirements for aged people with no or little deliberations on the user's viewpoints and partialities.

Dishman et al. (2004), claimed that the progression in technology has presented a discovery in the healthcare industry as modern developments in the same areas may have significant changes as medical care has always focused on homes and communities. This was permitted by a series of inescapable, surrounded computing and communications technologies. Furthermore, the radical variation from clinic-centered to community-centered medical care will change people from going regularly to exam rooms in healthcare facilities to unremarkable events of health and well-being that places a load of accountability on knowledgeable and practical community. These changes are expected to accord with the reviewed concepts of healthy aging. Conventionally related with steady visits to the physicians to maintain their physical and emotional health as well as operations in an occupied directive, healthy aging can progress into a complete procedure by which ideal roles as well as life quality is attained utilizing a collection of health-connected technologies expanding individuals' relations at the same time sustenance.

Population Health

In many countries the rate of aging individuals is increasing significantly, however, with the increased advances in technology and adoption in the health care system, the question

remaining is if the aging population will be supplemented with enhanced health, adequate societal and commercial resources as well as the quality of life (Michel & Sadana, 2017). Therefore, the population targeted in the digital health trend are old patients and providers and how the advancement of health technologies is affecting them. Therefore, considering the health of the aged individuals, their well-being will be dependent partially on the capacity of communities and families and contemporary societal, partisan, commercial and health service distribution systems, to deliver ideal sustenance to aging individuals.

According to Michel & Sadana (2017), although the contemporary communities are dedicated to delivering optimum sustenance to their members, the digital systems are constantly in fluctuation, directed by varied and changing national and local policy creations. Thus, societal, health and financial strategies for aged individuals differ significantly within industrialized countries. In addition, the examination of these changes through proper investigations will help in the development of useful laws designed to improve the health conditions and the societal and financial welfare of aging individuals. Also, while many people involved in telehealth and have little or no knowledge of the usage of the healthcare technology trends are old, it is important to study how the aging population is affected by telehealth.

Another population the trend will affect is the old physicians. According to Shanafelt et al. (2016), there is an unparalleled number of aging physicians in the United States health workforce. The same source argued that there is forty-three percent of all the United States physician who is more than fifty-eight years of age. Therefore, this makes the country experience a shortage in physicians while technology continues to increase which makes the utilization of it challenging. The trends of digital health would help increase the future well-being of the aging population while maintaining the quality of care.

Costs

Health care organizations are struggling to ensure the quality of care is achieved to all patients regardless of the place the people are or their age. Therefore, considering that the use of healthcare insurance managed to make many people access health services, there is a need to ensure the aging population also can access healthcare services at the comfort of their home. The aged population is vulnerable to many health issues and diseases, therefore, getting monitored at all time will play a critical role. However, despite telehealth playing a significant role in the successful health care for the aged population and reducing the work for an aged physician, medical facilities are required to undergo some cost on the implementation and adoption of the system.

The implementation of a telehealth system in healthcare will require the hospital to purchase new devices and software as well as offer training to their staff and patients. While the majority of the users of telehealth technology are patients and physicians, they need to know how to use it to work efficiently. Telehealth is the delivery of health service at a distance while utilizing information and communication technology. Eze et al. (2020), posits that the main foundations for its implementation have been to reduce costs, enhance proficiency and intensify access in service delivery. For instance, one of the systems used in telehealth is real-time video communication which requires the physician to talk with the patient in real-time while they are in the comfort of their home. The emergence of technological systems has made healthcare service to be done in a relaxed and friendly manner as well as increased data collection which will increase examination.

Research conducted by Dinesen et al. (2016), focused on the implementation of different telehealth systems and their financial incentive to both healthcare facilities and patients. The

source found out that offering therapeutic service through real-time video reduced the cost of care since the evaluation of telehealth has been based on telephone and telemonitoring. Also, the same source added that videoconferencing systems utilized in medical delivery are expensive for home implementation, however, other systems that facilitate video communication are resourceful, operative and provides for a wide choice of telehealth services to be offered while at home than when using audio communication only.

Return on investment is very challenging to be identified in the implementation of telehealth. However, for providers, they need to focus on long term effects as they will be required to implement most of the telehealth application. For instance, the telehealth session is more effective as compared to face-to-face clinical visits and is also not reimbursed (Shaw et al., 2017). Moreover, telehealth return on investment will be based on the reduction of physical patient visits as well as patients performing consultation online which might also save on space. Although incentive may be provided by the providers, it will be essential if, in situations where encouragement is given, less incentive will be provided because an augmented incentive will lead to misuse and surplus expenditures which might arise due to frequent follow-up video examination where one telephone call would have worked. Also, putting incentives too low would make physicians not implement telehealth.

The implementation of telehealth technology will have significant financial impacts on both the patients, aging population as well as government and non-governmental organizations. For instance, patients may benefit from increased health care delivery. Quality of care will increase as individuals will be monitored in real-time while at the comfort of their homes. The aging patients will be served for prevailing conditions and being monitored effectively. Considering that the old individuals are susceptible to several health problems, digital health

systems will help reduce redundant admissions and readmission as more services will be offered through remote examinations hence providing them with an opportunity to manage their health situations efficiently while at home hence saving on unnecessary costs (Shaw et al., 2017). The aging individuals will also save the expenses of moving every time to the hospital for a face-to-face consultation. Government and non-governmental organizations will benefit significantly if the system will be adopted well as fewer physicians will be needed in facilities as more service is done online. Also, telehealth will lead to increased patients and reduce physicians which will result in intensified revenues for the government. On the other hand, the health care organizations will have a substantial decrease in costs as opportune access to physicians diminishes inadequacies in general care.

Quality of Healthcare

The current global population is aging at a significant rate because it is projected that by 2050 one out of five individuals will be over sixty years. Also, four hundred and twenty-six million people will be more than eighty years by the year 2050 (Shaw et al., 2017). For that reason, considering that as people get old, the health depreciates, and both their physical and mental health declines, the healthcare facilities need to develop substantial means that will help advance the system and ensure quality care to all the aging population. However, aging patients undergo significant challenges in accessing medical care, thus the need to have frequent monitoring of their health.

The development of digital tools to support healthy aging is important. According to Robbins et al. (2018), it is critical to comprise the healthcare service for aged individuals in the universal care packages. Also, aged individuals require special care, which makes it important to have a proper organization between the health and social services to deliver ideal care when

required. The tools to be implemented must sustain healthy aging with a patient-centered and organized model of care. Besides, with the increase in digital health utilization to support the aging population quality of care is enhanced as they will be able to continue doing the things they value and avert from social separation and care reliance. Since they will be monitored closely by the healthcare providers, the aging population will be able to perform their activities efficiently and other people can intercede closer to areas where the aged live with the energetic engagement of community and old individuals.

Digital health has supported the sharing of information among providers and help in coming up with better solutions towards the aged individual's care. Quality of care is essential in every healthcare facility, therefore, irrespective of physician health, there is a need to have a proper information sharing platform such as telehealth that will ensure healthcare providers can monitor their patient's progress. Similarly, presenting the digital health technology initiative on the aging population into a medical facility can create momentous paybacks to patients and physicians. Enhancement to ¹quality, safety and effectiveness of patient care is attained through digital interventions. Hence, to facilitate proper healthcare delivery based on the current technological advancement all patients and physicians need to work together and implement the required technologies and interventions that will provide high benefits. Nevertheless, the accomplishments of digital interventions rely on certifying a demanding implementation procedure.

Healthcare Informatics

Digital health has resulted in an increased collection of patient information, and this has led to more data that can be analyzed and shared among different healthcare facilities. Malwade et al. (2018), emphasized that health informatics has emerged as the current trend in technology

that utilizes information technology establishing together with examining health records in enhancing healthcare outcomes. Therefore, health informatics focuses on resources, strategies as well as designs in using a collection of data, storing, recovering and utilization of health information. Although health informatics has been evolving for several years now, associating the gap developed by linking science and technology will increase patient quality of care and safety by connecting communication, technology and healthcare.

Health informatics is related to several health problems directly. One of the health problems is medical errors. Although medical errors have been happening, health informatics has resulted in increased errors. Patients can get misdiagnosed, incorrect prescriptions about their present health condition. With most health examinations being done virtually; erroneous reports may be generated which may be due to mismanagement of healthcare equipment from facility to facility. Despite the frequency of errors has been existing, the use of health informatics has reduced the occurrence of the errors as more data is obtained and recorded online in an electronic format.

Health informatics is not a factor in healthcare problem because it has emerged to eliminate major problems in healthcare service delivery. For instance, Robbins et al. (2018), stated that being a share of the Affordable healthcare act, aged individuals are in the process of getting Medicare and Medicaid compensation has been altered. Therefore, to get the payment services, physicians are obligated to conform with the delivery of the electronic format receipt of storing and recording the patient's therapeutic history. Similarly, healthcare providers are required to fill out the administration electronic forms to indicate the patients obtained healthcare service, all this is achieved through healthcare informatics. Additionally, health informatics has also presented a suitable form for Medicaid and Medicare compensation through electronic

health record systems as well as enhancing the flow of information with physicians and governments while requesting for payment of patient services.

Potential Solutions

Many current pieces of research are being conducted to ensure digital health is enhanced to mandate active aging. Although the aging population is not able to use the current technologies, they are being developed to ensure diverse usability. Usability plays a critical role in developing healthcare systems as it will allow individuals to use them effectively and serve the intended purpose (Robbins et al., 2018). Similarly, digital health has forced aging physicians to adapt to patient-centered care because they focus on enhancing patient access to quality care at their convenience. Thus, since the majority of aging patients may require frequent visits to hospitals, digital health will allow patients to get their health monitored while at the comfort of their homes.

Implications

Technology advancement has resulted in several social, medical and technical trends that have become an essential part of individuals' lives, there is no disagreeing that digital health has improved and closes the openings in the healthcare delivery system. Aging individuals have a mental and physical challenge as well as unable to adapt to the latest technology that would increase their general health and well-being. One of the challenges experienced is a visual impairment which develops as they grow old and makes them unable to use the system. Another challenge is the incapacity to keep up with change as they view technology variation as incredulity and intimidated. However, developers of digital health should consider aging population concerns and requirements while developing technological systems.

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