



# The Development of Health Technologies in the Digitalization Era

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**Abstract.** The growing digital era has led to many advances in technology in certain fields, such as in the health sector, where there are also many recent discoveries. This discovery made many changes in the health sector such as tools in the treatment process and increasingly sophisticated digital-based health services. Technological developments in this era are growing rapidly due to urgent needs with a large population, so the health need is increasing. The existence of the latest technology in health that is obtained with good quality and is useful for the advancement of many people in it. This digital-based technology makes it easier for medical personnel in the process of taking appropriate quality treatment steps for patients and making people and patients easily access the services of existing health care providers.

**Keywords:** Health · Technology · Digitalization

## 1 Introduction

The changing times are also undeniable in the change in the use of tools from traditional to modern, which is very fast in the transition process. The more modern world is now rapidly developing towards a more digital direction, where there is no need to bother spending a lot of money on just a short achievement. Time and cost savings are better, this is because they can be used for other more productive activities in life, including in the world of health.

In health, which used to use things that were all traditional, now turned into all-digital. The transition to digital health care models will enable the combination of patient empowerment, strategic use of digital tools, as well as information and predictive treatment, redefining experience and increasing results for patients, providers, and insurers [1]. With the digitalization of health, new technologies have been discovered. The development of health digitalization in the current era has reached the center of glory, it is undeniable that there will be developments leading to more sophisticated directions. Digitization in the world of health occurs in the equipment used in the treatment process and the search for diseases that are difficult to detect. The existence of these digital tools will make the process easier and save time with much more justifiable accuracy.

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In addition, digitization in the health sector is also found in facilities in the form of smartphone-based applications, which facilitate the process of activities in the health sector without considering distance and location. This is because it is based online and can be reached in just a few minutes without changing places between service users, which can be people or patients with the doctor.

Digitalization and transformation of healthcare will affect employees, middle managers and top managers, and thus require involvement and implementation by all stakeholders [2]. This means that all parties involved in the world of health are required to know and understand technological developments in the present and future eras for all of this will be very helpful for the progress and quality improvement of all parties. For this reason, it is important to know developments in the existing digitalization era to improve technology in health in the future era and increase the next appropriate technology.

## 2 Discussion

### 2.1 Health Support Equipment Technology

In the world of health in this era, many use sophisticated digital-based health equipment for convenience in the process of diagnosing disease and in the process of treating disease. The process of diagnosing disease will be known more quickly based on accurate results with the presence of digital technology, so doctors will be faster in providing first aid for the treatment process.

The digital equipment was developed to obtain appropriate technology for human health, which is expected with increasingly sophisticated technological advances to improve the quality of health services.

**Digital radiography system.** Diagnostic radiography, employed in the radiology department of hospitals for medical imaging, has transitioned from conventional film-based radiography to digital radiography without film (filmless), or the use of a computed radiography (CR) system. This is done as a Computed System Replacement Expensive Radiography [3]. The procedure for digital radiography is much the same as that for film radiography, which requires 0.25 to 0.50 s for each exposure. However, the voltage and operating current for an x-ray tube to create the same amount of x-ray intensity are considerably smaller by a factor of exposure, being 60 kV for the anode-cathode voltage, 16 mA for the filament current, and 0.5 s for the exposure period. Taking X-rays with a digital sensor can capture clearer and more accurate or very accurate images. In addition, X-ray data is also transmitted digitally, making it more efficient and environmentally friendly [4].

This application is very important with the development of advanced digital technology, it will be easier to diagnose the vital points of the disease. So that it will expedite and accelerate the performance of doctors in the patient's treatment process.

**CAD/CAM restoration.** Digital tools like CAD/CAM Restoration are also used in the field of oral health. With CAD/CAM Restoration, dental restorations are made using a computer program, starting with intra-oral scanning to create a 3D image of the patient's mouth and continuing through the design phase to the creation of dental restorations that are ready to be placed within the patient's mouth. Shorter treatment periods in dental

chairs, easier treatment methods, more comfortable patients, quicker, more accurate, and more exact manufacturing processes for dental restorations are some benefits of employing CAD/CAM in dentistry [4].

The existence of this digital tool technology makes it easier for dentists to determine the process of improving the quality of the patient's teeth which has been equipped with a 3D model will feel real in the process, making it very easy to determine future steps in a short time will also make its usefulness practical [5].

There is much other digital health equipment used to support medical treatment activities. The equipment will continue to develop even more sophisticated than it is today. Technology is increasingly being developed to achieve the quality of improving health so that it will make the resilience of human quality.

## 2.2 Application-Based Health Technology

In the progress of the times in this digitally sophisticated era, many conveniences can be accessed via smartphone-based applications, including in the world of health. These discoveries improve technology in health that will help patients or people to obtain health services. With the existence of these facilities, application-based health technology has a very good impact on the community, including:

**Make it easier for people to order queues.** Usually, people queue for a long time at the hospital before the examination, causing boredom and some people will be lazy to check again because of the unpleasant experience.

The existence of an android-based application will make it easier for people to order queues when they want to check-in at the hospital. With orders that can be made from home, so that when you arrive at the hospital, you just re-register and can go straight to the examination room without waiting any longer.

**Facilitate online health check.** Now there is an android-based application in which there are features of easy access to health checks with doctors online. Consultation can be done by the patient by choosing a doctor according to his field or what he wants. Then a question and answer will be asked about the patient's complaint or illness.

This makes it easier for people or patients to consult with doctors without having to leave home to bother coming to the hospital. So it will save costs and they feel the need for health services is met easily.

**Buy drugs easily.** With the existence of online health check services, it is undeniable that it is easy to get medicine. Drug selection can be made after receiving a recommendation from a doctor after being examined, or they can also choose according to their needs in today's technology on Android-based applications.

With this technology, they do not need to leave the house to get medicine to improve their health. So that the patient will be easy with the services sent by the delivery service.

## 2.3 The Act or Digital Wellness in COVID19

The need for a health orders approach and fast reaction strategy for assemblage facts unavoidable for policy resolutions all along pandemics and comparable troubles. It

desires anew framework for evaluating the steps of the universal. Method: The paper draws allure facts and judgments from a rapid combination and interpretation process (RSTP) of a order of webinars and online arguments from the Universal-Insane Health Worldwide Network (Pan-MHIN) - procedure masters from across 16 locations in Australia, Denmark, Italy, Spain, Taiwan, the UK and the United states of America [6]. While the primary focus of this research act insane fitness, COVID-19 has raised much more extensive issues and questions for energy planners. We labeled gaps moving the ability to acknowledge effectively and fast, containing concerning system signs, the defect of the earlier classification of the points of the universal, the absences of a healthcare environment approach, and the quick shift to mathematical electronics [7]. The strengths and proneness of COVID-19 answers across various systems, aids, sites and nations existed identified and distinguished, containing two together low and extreme jolted regions. Conclusions: Skilled is an critical need for administrative epidemiology established healthcare environment research including multidisciplinary groups, imagination tools and resolution data for swift response. Tactics and healthcare framework risked a key role in the reaction to COVID-19. Allure asperity, the containment measures and the pertaining to society reaction different greatly across sites and nations. Understanding this alternative is essential to assess the impact of COVID-19 in particular regions in the way that ageing or insane well-being.

## 2.4 Inquiries of Digital Health All Along Covid 19

The COVID-19 disruption has touched the elderly's tangible and insane fitness. The application of news and ideas electronics, such as travelling strength (m-well-being), can help control this pandemic by changeful the attitude and behavior of the elderly all the while in the past of emergency.

Objective:: This review aimed to combine the powers of m-fitness in providing health duties to the aged all along the COVID-19 pandemic, and to recognize the determinants donating to the success of these finishes.

**Future research.** The adulthood of the databases inspected here written studies about the part of m-well-being tools in the earlier state, but only a few reports directed on a distinguishing earlier group during the COVID-19 universal. Therefore, fitness organizations and investigators endure pay more consideration to this domain because the aging maybe taken care of in danger positions to a degree COVID-19 with the help of m-fitness forms. More research has expected conducted to expand and judge new arrangements, and social laborer preparation programs bear be provided to guarantee that earlier community can access these aids. All the while in the past of crisis, more evidence on the efficiency and cost-influence of m-energy tools in advancing the energy and happiness of older persons is necessary. It is urged that future studies determine by means of what to start m-fitness in healthcare settings (like home suckling and aging care centers), and assess the aged and healthcare pros' delight with mobile based aids.

**Limitations.** The use of diversified and varied effect measures all the while the COVID-19 universal limits the reliability of judgments about the efficiency of health mediations in upholding the elderly. Additionally, we acted not have approach to some databases

in the way that CINAHL and PsycINFO, and manage not approach articles written in sounds apart from English.

### 3 Methods

#### 3.1 Study Design

Directed on the patterns used to measure the effects of cyberspace-located mathematical energy interventions for residents was administered similarly the Favorite Reporting Articles for Orderly review and Meta-Study Codes (PRISMA-P) [4]. This includes a record of urged articles expected addressed in a orderly review pact. The obligation was grown a Priorian accordance with the Worldwide Anticipated Register of Orderly Reviews (PROSPERO) template and is feasible upon request. We attended the Cochrane Cooperation methods for overviews of reviews. The scope of the review and fitness tests were planned utilizing the PICOS approach (participants, attacks, contrasting, consequences, study designs) [5]. The Evaluating the Methodological Value of Orderly Reviews (AMSTAR) tabulation was used to determine the quality of the contained reviews.

#### 3.2 Addition and Exclusion Tests

Reviews included concerning qualities not quantities, Review documents were worthy if the primary end-consumer was the patient or caterer taxpayer, they were related to internet -located digital energy interventions for villagers place there was a direct form of interplay accompanying health care providers, and they judged the impact of executing or using internet-located digital energy invasions for citizens. Computer network-located digital well-being interventions for nationals contained patients' approach to EHR, patient doorways, and other computer network-located support programs. An EHR is the electronic accumulation of dispassionate data having connection with individual subject of care, including dispassionate assessments, workshop results, radiology verdicts, nursing proof, sensitivity information, cure facts and discharge letters. Health management arrangements can provide connected to the internet EHR approach to patients, aunts or different informal careers. Besides health management organizations, EHR approach concede possibility also be presented on a governmental scale. Electronic patient entryways are outlined as electronic requests (usually web-located) given and maintained by health management organizations which can offer approach to (a subset of) dispassionate EHR dossier as well as supplementary duties, including cure refills, assignment scheduling, approach to comprehensive medical news in the way that guidelines, or secure to foreshadow. WWW-based support programs concern interventions, specifics public support groups, online cure for psychosocial or tangible symptoms, connected to the internet plans integrating facts, support and instructing services, that can advance collaboration and help things with incessant environments. Review papers were expelled if they were had connection with interventions secondhand only by health care experts (eg, dispassionate decision support schemes), they were had connection with interventions devised for inmates without direct interplay with health management providers (eg, mHealth, self-administration tools, instructional terraces), and they were focused on patient [8, 9].

### 3.3 Data Extraction

A standardized dossier origin form was grown, guide and used to extract data from the filled theme of the contained reviews for evidence synthesis. Elicited dossier used to classification review papers contained first writer, period of disclosure, language, type of review, action, aims, fitness criteria, and the fields of the AMSTAR tabulation. Supplementary news extracted each review paper contained: study draft, invasions, populations, scenes, belongings calculated (types of outcome, views, signs), study design, and main judgments. Three papers were preferred to ship the dossier origin process and form. All the review team appendages inspected bureaucracy. A meeting was arranged about dossier extraction to confirm that all review crew appendages had the unchanging understanding of the information to extract [3]. The brimming texts of the contained reviews were evenly and randomly detached between the review appendages to minimize bias. Each paper, dossier were culled orderly and reported on the dossier distillation form. Documents that did not meet the addition tests were mentioned along with the reasons for expulsion. Another appendage therefore cross-restrained all the papers inspected by individual appendage in order to come to terms the excerpt [5].

## 4 Conclusion

The existence of developing and existing technologies in the world of health, will facilitate services for the people of the country and strengthen the country's resilience through public health. The existence of domestic health will protect the whole nation and health will be achieved considering the immune body of strong people.

Technology in health is very sophisticated in this era, moreover, there is a digitalization process that makes everything easier in the world of health. The existence of health technology services will increase progress in the field of public health.

The conveniences obtained by humans in the world of health indicate how rapidly the health needs are being faced by the challenges of the times, which will continue to develop and continue to develop what will be created and discoveries again in the future.

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