

A Survey of E-Health Platforms: From the Educational and Medical Application Perspectives

Work package 2

I. Introduction:

According to the World Health Organization (WHO) definition, eHealth is the use of information and communications technology (ICT) to provide enhanced health services to communities [1]. eHealth services are defined as telehealth, electronic health records, mobile health, social media, and big data [1]. E-health has been used in order to improve education as well as other services in the medical domain. As covid-19 has changed the way we think of improving our health and our lives, E-health has become a necessity based on a daily practice of doctors, patients, and decision makers. For example, medical chatbots have been used between doctors and patients to decide patient's case and whether he must go to the hospital or not. In addition, it has been shown that eHealth self-care among heart failure patients as well as improve the outcomes of cardiac rehabilitation among coronary heart disease patients [2,3] and improve mental health [4,5] Teleconsultation. A review of 58 systematic reviews showed that overall eHealth provides beneficial results in a wide variety of medical applications [6]. These studies indicate that eHealth would allow for changing the way we think and behave towards medicine. In addition, ehealth literacy and awareness must be more targeted and clarified through more better objectives and actions. In this survey, we focus on the importance of E-Health literacy, examples of E-health platforms used, and educational E-health platforms.

II. E-Health Literacy:

E-Health providers and decision makers should provide more awareness sessions and training about E-Health, specifically in the post-covid-19 era, where there is more changing into our life style. In addition, patients themselves must have the motivation to move into the era of E-Health and better communicate with their doctors in order to derive into better healthcare solutions that might save their lives.

III. Examples of E-Health platforms used:

Lorenzo Gios et al. developed TreCovid19 to facilitate the monitoring of a selected number of home-quarantined patients with COVID-19 during the very first epidemic wave. The app was built on top of an existing eHealth platform, already in use by the local health authority to provide home care. TreCovid19 has two main objectives: (1) to securely collect and link demographic and clinical information related to the patients and (2) to provide a two-way communication between a multidisciplinary health care team and home-quarantined patients.

The proposed platform is designed to help patients to self-assess their condition and update the multidisciplinary team on their health status.

In addition, SATMED is a multi-level software-as-a-service eHealth platform owned by the Government of Luxemburg [7] aimed to help healthcare providers make better use of information technology and mobile health solutions specifically in remote and underdeveloped areas since 2014. SATMED has been tested in cooperation with several partner NGOs and hospital ships in multiple locations across Africa and Asia Pacific, after its initial roll out in Sierra Leone during the Ebola outbreak.

Furthermore, Kouroubali A. developed a platform for COVID-19 that is dynamically adapted according to patient preferences and medical history, to support patient-centred information, management and reporting of symptoms related to COVID-19. The platform stakeholders are citizens, healthcare providers and public health authorities to support safety during any crisis.

IV. Educational Platforms:

Many platforms exist as Learning Management Systems. One of the best and mostly used in Medical online courses for E-health is Moodle [9]. Moodle is an open source Learning Management System, where one can upload his educational material of videos, assignments, and any other kinds of discussions. Many activities can be performed via Moodle like having interactive classes and discussion forums with the students. It has been suggested by the project team in order to have training on how to use Moodle. Students' activities are being monitored of uploading assignments and regular activities as well. Learning Management Systems are evaluated via facilities that can be made to the learner, easiness of course navigation, and registered coursework that the student does.

References:

[1] <https://www.who.int/>

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[3] Su JJ, Yu DSF, Paguio JT, "Effect of eHealth cardiac rehabilitation on health outcomes of coronary heart disease patients: A systematic review and meta-analysis," J Adv Nurs 2020 Mar;76(3):754-772. [[CrossRef](#)] [[Medline](#)]

[4] Spijkerman MPJ, Pots WTM, Bohlmeijer ET, "Effectiveness of online mindfulness-based interventions in improving mental health: A review and meta-analysis of randomised controlled trials," Clin Psychol Rev 2016 Apr;45:102-114 [[FREE Full text](#)] [[CrossRef](#)] [[Medline](#)]

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- [8] Kouroubali A., "An eHealth Platform for the Holistic Management of COVID-19," *pHealth* 2020, pp.182- 188. Doi:10.3233/SHTI200636