Digital Health Education: Determining Competences and Piloting Innovative Study Course

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Abstract. Digital technology for health services plays a critical role in the delivery of health services. In order to move towards universal healthcare, improvement of patient outcomes and better health, one must make use of the advantages of Digital Health tools and recognition of the role of the health ICT worker. Therefore, it is necessary to have a workforce that is competent to use these tools. Uniquely positioned at the intersection of healthcare and information technology, the domain of Digital Health builds on a variety of disciplines termed biomedical and health informatics, and other allied fields. With the increasing need to have a knowledgeable, skilled and competent workforce, it is necessary to concentrate efforts towards the provision of education modules in Digital Health. While continuing medical education, certificate courses and other similar courses attempt to bridge the gap in the delivery of Digital Health education, it is also paramount to establish dedicated and standalone courses. Streamlining approaches to Digital Health Education across disciplinary, cultural and national boundaries, is key to address the challenges of firmly embedding Digital Health courses in the fabric of university education. In the effort to provide the necessary knowledge, skills and competencies (KSCs) to the current health ICT worker, the Deggendorf Institute of Technology, European Campus Rottal-Inn (DIT-ECRI) is in the process of piloting a virtual course in Global Digital Health. With the ability to provide core competencies in Digital heath, this virtual course is a step towards advancing Global Digital Health Education.

Keywords. health workforce, digital health, information science, distance education, patient education

1. Introduction

1.1   The Scope of Digital Health

The move towards digital transformation, widely called the fourth industrial revolution presents a tectonic shift and the most important transition in the history of humankind. Digital Health technology offers a vital means to revolutionize the way national health systems are maintained. Supporting these initiatives is the necessity to educate professionals in the field of Digital Health. Such an approach is imminent so as to fully utilize the advantages and competencies of Digital Health, to prepare health professionals to work in a Digital Health environment and lastly, to empower the citizen.

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2. Innovative Virtual Course 'Global Digital Health' (IVC-GDH)

DIT-ECRI is currently heading a project to develop and pilot an innovative virtual student-oriented approach for studying the Digital Health environment in health systems in various countries. The goal of this project is to pilot a comprehensive innovative online (virtual) course of instruction in Global Digital Health, policies and practices in different countries and regions.

The course will be structured around the entire scope of the Digital Health domain. Students will be introduced to Digital Health technologies and systems such as digital health records, health information systems, interoperability, telehealth, mobile health, digital therapeutics, digital image analysis, and health analytics. As the scope of Digital Health grows, students will additionally learn the concepts of artificial intelligence, biomarkers, omics and precision medicine.

The core teaching methodology will be activities with students in studying health systems globally and the impact of Digital Health technologies through case studies and *Countrynalysis*™ (country profiles). Students will be encouraged to conduct an in-depth review of a country's health system and the Digital Health landscape [1].

A needs assessment survey was carried out to determine the knowledge, skills and competences of healthcare and IT professionals, medical and health educators, and all those with a career, knowledge or interest in the field of Digital Health [2]. Almost half of the 77 respondents from 26 countries reported that they were very familiar with the field of Digital health and its definition by the WHO Global Strategy on Digital Health 2020-2024. Around 67% of the respondents agreed that there is a need for a standalone interprofessional course in Digital Health. When asked about which topics or elements should be included in such a course, the respondents noted that ethics training, interdisciplinary training, training on research methods, hands-on IT training and project management training were most important.

3. Conclusion

Building a workforce with knowledge, competency, and skills for the adoption, initiation, and operation of digital technologies is essential for the full utilization of such technology in healthcare. Education and training in the core competencies are fundamental for the health worker and the health ICT worker. At DIT-ECRI, efforts in this direction are furthered through the Master of Digital Health course and the IVC-GDH course. In addition, it is necessary to establish a framework of a distance learning Digital Health education and training program to help educators around the world to improve, or further develop education in Digital Health.

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