EUCARE4.0

HEALTH 4.0 TRAINING TO BOOST DIGITALTRANSFORMATION OF EU HEALTHCARE SECTOR

Erasmus+

EUcare4.0

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STATUS OF THE PROJECT

From 22 to 26 of May 2023, the Hospital Universitario de Guadalajara, SESCAM – UC3M hosted the LTTA (Learning, Teaching or Training Activities) of the Project in Guadalajara, Castilla-La Mancha, Spain. The 5 days intensive training happened in an important phase of the content development. The EUcare4.0 training modules, in English version, were already in a draft form, ready for group work and examination.

All modules were presented by the participants from the respective responsible partner, discussed, analyzed and brainstormed for fine tuning and improvements. R3/A2, EUcare4.0 trainer guidelines were also ready and the task leader, OAMGMAMR, proposed several ideas and tested some training methods, mostly informal and non-formal, with the participants. At the end, the most suitable ideas and techniques were selected to be used for improving the development of the trainers' guidelines.

The LTTA was a good opportunity for the task leader, UC3M, to present the development of the e-learning space and to get feedback and find out new ideas and suggestions from the other participants. Professionals in mental health attended to learn, test and apply the modules in 3-4 extra uses cases propose by SESCAM.

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NEW TECHNOLOGIES IN HEALTHCARE

Since the last ten years, Industry 4.0 and the relevant technologies are dramatically changing the world in which mental health professionals and their patients live.

These technologies have the potential to make mental healthcare more widely available and accessible, affordable, acceptable to patients, and adaptable to special needs. Many mental health professionals, as well as those who train them, are still skeptical about integrating the new capabilities into their services and question the ethical and legal appropriateness of doing so. Those unfamiliar with the technologies tend to be particularly doubtful. But, for better or worse, no mental health professional today can avoid confronting the issues presented by the new technologies.

Effective, reliable and sustainable ways to record and communicate information between patients, professionals, clinics and service providers will be a foundation for further innovation. At the same time, mental health care will become more and more customized, progressively abandoning standard solutions. Assessment and intervention on patients will be undertaken after gaining a better, deeper understanding of the conditions and environmental context of the individual case.

FROM HEALTHCARE 1.0 TO HEALTHCARE 4.0

Health care systems share a lot of common features with manufacturing systems. Using our knowledge of the evolution from Industry 1.0 to 4.0, we can describe similar multiple stages to represent the evolution from Healthcare 1.0 to Healthcare 4.0.

Healthcare 1.0 refers to the basic patient-clinician encounter. During such an encounter, a patient visits a clinic and meets with a physician and other members of the care team. Through consultation, testing and diagnosis, the clinician provides prescription for medications and a care plan for treating a disease, as well as follow-up plans.

Along with major development in health, life science and biotechnology, numerous new medical equipment and devices have been invented, developed and tested, and are increasingly used in health care delivery. For instance, imaging test equipment, monitoring devices, and surgical and life support equipment are increasingly used in hospitals and other care settings to support diagnosis, treatment, and monitoring. We refer to this development as Healthcare 2.0.

In conjunction with the development of IT systems, electronic health or medical record have been implemented to manage care of patients across units and departments of health care organizations; these health information technologies have had major impact on clinical and operational processes. Numerous activities are time-stamped and recorded and many manual processes have been computerized and digitalized. Using computer networks, remote care and telehealth have become possible, and electronic visits are beginning to replace some face-to-face encounters. All of these have led to multifarious revolutionary changes in health care delivery. We categorize this revolution as Healthcare 3.0.

The fourth healthcare revolution is now emerging in parallel with Industry 4.0. In such a context, the healthcare delivery process becomes a cyber-physical system equipped by IoT, RFID, wearables, and all kinds of medical devices, intelligent sensors, medical robots, etc., which are integrated with cloud computing, big data analysis, AI and decision support techniques to achieve smart and interconnected health care delivery. In addition, through AI techniques, we can envision proactive treatment, disease prediction and prevention, personalized medicine and enhanced patient-centered care. Thus, a pervasive, smart, and interconnected healthcare community emerges, which leads to the paradigm of Healthcare 4.0.

HEALTH 4.0 IMPACT ON MENTAL HEALTH

Given the huge unmet need that exists for mental health services, it is unlikely that technology will reduce demand for mental health professionals in the foreseeable future. The technologies outlined above and the impacts they will have on investigations, interventions and settings of care will, however, change the skills required along with the roles and functions of staff, that will be focused on higher-value tasks.

Health care delivery is about "team" work. Even a standard clinic visit involves many different team members: patients, sometimes caregivers, and multiple clinicians and health care workers, e.g. physicians, nurses, medical assistants, pharmacist, lab technicians, etc. Multiple

processes can be involved as well, such as patient visit process, caregiver work process, information management process, document and billing process, etc.

Such teams and processes expand rapidly when the system becomes larger; therefore including outreach to other organizations, the community, various social networks, and expanding the physical boundaries of the system.

Health Care 4.0 provides numerous opportunities and challenges. Humans, including patients, caregivers and health care workers, should be at the center of smart and connected health care, in both research and practice. It is important to consider their characteristics, needs, abilities and constraints when designing and implementing smart and interconnected health care.

Not only the health community, but also other parts of society will be involved in Health Care 4.0. For example, the COVID-19 pandemic has affected everyone and all the businesses, industries, and communities.

Staff at every tier can be supported to care for more complex patients
Source: Plugging healthcare workers into the digital future Retrieved from:
https://home.kpmg/xx/en/home/insights/2022/01/plugging-healthcare-workers-into-the-digital-future.html

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