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Electronic Medical Records Virtual Course. Strategies for an Effective Training

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Abstract. The Introductory Course to the Electronic Medical Records (EMR) is part of the Digital Health Strategy of the Ministry of Health's Universal Health Coverage (UHC). One of its principles is achieving interoperability between different electronic medical records systems. The healthcare workforce training in these subjects is essential. During 2018, six editions of the course were developed in the Moodle Virtual Health Platform with 850 approved participants. We analysed the previous experience to reformulate the learning materials and create new instances for pedagogical support.

Keywords. eLearning, Electronic Health Records, Change Management.

1. Introduction

According to the Ministry of Health (MoH) Resolution 189/2018, Digital Health is one of the three strategic principles to achieve Universal Health Coverage in Argentina. Interoperable EMR can store primary information during contact with the patient to build a national medical record with clinical, statistical and management utility.

Evidence shows that the implementation of any EMR is a complex process that may have to overcome multiple barriers: financial, technical, time, psychological, social and resistance to change [1]. Negative beliefs of social and psychological nature play a significant role in resistance to adopt EMR [2]. The potential of eLearning for health professionals is widely researched and reported [3]. The EMR online educational course for health professionals develops arguments to tear down usual adoption barriers, and challenges every student to become a champion of change to transform his own work practices. We analysed our previous online courses experience to reformulate the learning materials and enhance the pedagogical support.

2. Materials and Methods

Argentina has a decentralized federal organization divided into 24 jurisdictions. In its territory there are about 30,000 health centers of all levels of complexity that provide care for 45 million people. Around 60% of the population has fixed Internet access and there are 30 million users with mobile connectivity. Health workers are heterogeneous in digital literacy, but most of them interact with technological tools.

Taking into account the amount and distribution of potential students (3,000 for the first stage), the virtual self-administered course was planned to be available

periodically in the Moodle Virtual Health Platform of the MoH, at no charge. Flexibility is one of the features that makes virtual education particularly suitable for most citizens, mainly adults [4]. After 6 cohorts, 850 students passed their examinations. Quantitative and qualitative data was gathered from course enrollment, follow up, passing rates and feedback surveys. Following a technical review, the course was redesigned to ease usability and comprehension. New cohorts were also analyzed.

3. Results

The original course had 3 sections: 1) General aspects of EMR; 2) Privacy, Confidentiality and Security; 3) Interoperability. The new edition kept the same sections, with great didactic evolution in: Language (technicalities were avoided, explicit references to more complex concepts were included); Content (simplification of complex concepts focusing on the main idea); Applicability (examples were provided to enable correlation with professional practice); Audiovisual tools (short videos and animations with clear locution voice, infographics to synthesize theoretical notions); Interaction (an online forum to answer questions and promote student exchange); Exams (focus on global understanding of central ideas); Follow up (enrollment in an alumni forum to exchange local experiences).

Table 1. Number of enrolled and approved students during the last 3 cohorts of the online course (2019).

Number of students	7th edition	8th edition	9th edition
Enrolled / Finished / Approved	397 / 182 / 163	561 / 242 / 220	388 / 179 / 157

Online surveys showed a trend towards better student perceptions. Table 1 shows the outcomes of the new course. Even though there was more than 50% dropout, there was a higher passing rate.

4. Conclusion

This course redesign aims to exploit the potential of e-Learning by identifying the better approach to teach about EMR in our context. The flexibility in space and time of online tools combined with proper contents favor the achievement of the strategy objectives. Enabling the MoH Moodle Virtual Health Platform for mobile devices could increase the benefits of this modality, including higher enrollment and retention.

References

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