CONFERENCE ABSTRACT

The CONNECARE ICT Tools to Support Integrated Care
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Eloisa Vargiu[1]

1: Eurecat, Barcelona, Spain

Background:

The growing digital transformation of healthcare offers great opportunity to achieve a transition to people-centered-care that includes empowering citizens and integration of services. Technical solutions are unlikely to achieve the expected impact if not accompanied by supportive organizational and policy innovations. The CONNECARE consortium implemented a new organizational model for Integrated Care, enabled by ICT tools to adaptive case management, clinical pathway personalization, and self-management of complex chronic patients.

Methods:

The CONNECARE system is composed of a Self-Management System (SMS), installed on patients' smartphones (or tablets), and the Smart Adaptive Case Management system (SACM), accessible via Web. The SMS allows monitoring patients and provide engagement, rewards, and warnings. It monitors: physical activity, health status through medical devices and self-reported questionnaires, rehabilitation tasks, sleeping activity, and drugs intake. The professional may also share advices in form of text or videos. Alerts and notifications are sent in case of anomalies or request to actions by the patient. The SACM has extended functionalities for case management to define a case according to an organizational model based on a 5-dimension score strategy: Case Identification, Case Evaluation, Workplan definition, Workplan execution, and Discharge. Additionally, the SACM includes an advanced a Clinical Decision Support System focused on helping clinicians in risk assessment and stratification and a visual support tool for locating the patients and organizing their visits. The SMS and SACM interact each other through the CONNECARE Enterprise Service Bus which connects both subsystems and orchestrates their communication. All professionals, both from primary care and hospital, social workers included, interact with each other using a direct communication tool to coordinate the patient's care plan and its execution, assuring continuity of care between hospital, primary-, and social-care. Patients continuously check their status and execute their assigned tasks through the SMS. Hospital staff, primary care professionals, and social workers may also help and accompany the patients using the messaging. CONNECARE provides also an integration framework to link its services to specific Electronic Health Records and regional Personal Health Folders.

Results:

Implementation studies began in July 2018 in Catalonia, Groningen, and Israel and, a total of 288 patients and about 100 professionals have been involved. In general, the service provided by the CONNECARE ICT solution and the possibility to interact with the professionals was perceived as very positive by the patients. Important usability issues were often mentioned hindering continued participation of patients in the study. Continuous maintenance, testing, and improvements were therefore made to the CONNECARE system and connected devices, including the number and location of icons and the font size of text. To solve technological issues, direct lines of communication were set-up between the clinical sites and the IT professionals who developed and maintained the system in the project.

Conclusions:

CONNECARE results have stimulated new initiatives aimed at adapting the CONNECARE system at large-scale and considering further case studies.