
CONFERENCE ABSTRACT

Implementation of digital health tools for scalability of a prehabilitation service

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Isaac Cano¹, Anael Barberan-Garcia^{1,2}, Santiago Iriso³, Oscar Solans⁴, Felip Miralles⁵, Josep Roca^{1,2}, Graciela Martínez-Pallí⁶

1: Institut d'Investigacions Biomediques August Pi i Sunyer (IDIBAPS), Universitat de Barcelona, Barcelona, Spain;

2: Respiratory Medicine Department, Hospital Clinic de Barcelona, CIBERES, Barcelona, Spain;

3: Information Systems Department, Hospital Clinic de Barcelona, Barcelona, Spain;

4: Oficina eSalut. Departament de Salut, Barcelona, Spain;

5: Eurecat Technology Center, eHealth Unit, Barcelona, Spain;

6: Anesthesiology Department, Hospital Clínic de Barcelona, Barcelona, Spain

Introduction: The efficacy of prehabilitation (PreHab) to reduce surgical complications, and facilitate postoperative recovery, has been demonstrated (Ann Surg. 2018; 267(1):50-56). Deployment of PreHab as mainstream service at Hospital Clínic de Barcelona (HCB) has been undertaken. However, there is a need for consolidation of modular digital health tools to address two main aspects of service scalability: to empower patients for self-management at community level and to support collaborative work among professionals.

Practice change implemented: PreHab has a trimodal approach including: supervised endurance training & promotion of physical activity, nutritional balance and psychological support (mindfulness). Supporting technologies include an adaptive case management platform to enhance collaborative work among health professionals and patients themselves using a mobile application for self-management at community level.

Aim and theory of change: A recent design thinking process involving all stakeholders identified that transferability of the PreHab service can improve with modularity of both service workflow and digital health tools. Moreover, service accessibility and sustainability should be enhanced by shared care agreements with community-based services.

Targeted population: Effectiveness and sustainability of PreHab is currently being assessed in a real world setting (HCB, 300 patients/yr.).

Timeline: The technological support with full integration between community (patient) and health information systems at HCB (professionals) was implemented and is currently being evaluated. Next steps, during 2019, are: i) regional deployment of PreHab; ii) integration of the self-management platform into the regional personal health folder (La Meva Salut© - lamevasalut.gencat.cat), iii) evolution of the service toward a perioperative care program with a population-health approach; iv) refinement of the adaptive case management functionalities using the Camunda© (camunda.org) open source workflow and decision automation platform; and, v) transferability of selected traits of PreHab to rehabilitation of chronic stable patients.

Highlights: The supervised endurance training sessions are managed and tracked with the proprietary Technogym® equipment (i.e. Mywellness). Patient self-management is based on MyPathway® (mypathway.healthcare). Integration with hospital information systems is performed using an open source HL7 FHIR API (i.e. HAPI). System usability is planned to be assessed by means of a Net Promoter Score survey in case of patients and the User Experience Questionnaire (UEQ) in case of healthcare professionals.

Comments on sustainability: PreHab has shown potential for health value generation, both at provider and at health system levels, indicating that the operational costs can be fully covered by savings generated through adoption of the service.

Comments on transferability: Regional transferability of PreHab is planned during 2019 and transferability at International level will be undertaken thereafter.

Conclusions: PreHab digital health tools for patient self-management with off-line remote monitoring and access to a case manager are ready to be integrated with provider-specific and regional health information systems for a large scale development.

Discussions: Individualized work plans should combine face to face supervised sessions and community-based remotely supervised activities, including access to partnering health/wellness centers.

Lessons learned: Personalization and modularization of the service, as well as the supporting digital health tools, were identified as core traits to ensure adoption.

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