Design of Evaluation for Ehealth Intervention: A Participatory Study in Italy, Israel, Spain and Sweden

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Abstract : Introduction: Many evaluations of eHealth interventions conclude that the evidence for improved clinical outcomes is limited, especially when the intervention is short, such as one year. Often, evaluation design does not address the feasibility of achieving clinical outcomes. Evaluations are designed to reflect upon clinical goals of intervention without utilizing the opportunity to illuminate effects on organizations and cost. A comprehensive design of evaluation can better support decision-making regarding the effectiveness and potential transferability of eHealth. Hence, the purpose of this paper is to present a feasible and comprehensive design of evaluation for eHealth intervention, including the design process in different contexts. Methodology: The situation of limited feasibility of clinical outcomes was foreseen in the European Union funded project called "DECI" ("Digital Environment for Cognitive Inclusion") that is run under the "Horizon 2020" program with an aim to define and test a digital environment platform within corresponding care models that help elderly people live independently. A complex intervention of eHealth implementation into elaborate care models in four different countries was planned for one year. To design the evaluation, a participative approach was undertaken using Pettigrew's lens of change and transformations, including context, process, and content. Through a series of workshops, observations, interviews, and document analysis, as well as a review of scientific literature, a comprehensive design of evaluation was created. Findings: The findings indicate that in order to get evidence on clinical outcomes, eHealth interventions should last longer than one year. The content of the comprehensive evaluation design includes a collection of qualitative and quantitative methods for data gathering which illuminates non-medical aspects. Furthermore, it contains communication arrangements to discuss the results and continuously improve the evaluation design, as well as procedures for monitoring and improving the data collection during the intervention. The process of the comprehensive evaluation design consists of four stages: (1) analysis of a current state in different contexts, including measurement systems, expectations and profiles of stakeholders, organizational ambitions to change due to eHealth integration, and the organizational capacity to collect data for evaluation; (2) workshop with project partners to discuss the as-is situation in relation to the project goals; (3) development of general and customized sets of relevant performance measures, questionnaires and interview questions; (4) setting up procedures and monitoring systems for the interventions. Lastly, strategies are presented on how challenges can be handled during the design process of evaluation in four different countries. The evaluation design needs to consider contextual factors such as project limitations, and differences between pilot sites in terms of eHealth solutions, patient groups, care models, national and organizational cultures and settings. This implies a need for the flexible approach to evaluation design to enable judgment over the effectiveness and potential for adoption and transferability of eHealth. In summary, this paper provides learning opportunities for future evaluation designs of eHealth interventions in different national and organizational settings.

Keywords : ehealth, elderly, evaluation, intervention, multi-cultural

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