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Title

Supporting Goal-Oriented Care using Mobile Technology: Findings from the Mixed-Methods Trial of the ePRO Tool

Priority 1 (Research Category)

Healthcare informatics

Presenters

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Abstract

Context: Goal-oriented models of care are becoming more widely used as part of primary care delivery for older adults with multimorbidity and complex care needs. While these models hold promise, implementation remains challenging. Digital health solutions may improve adoption however, they require evaluation to determine feasibility and impact. Objective: This study evaluates the implementation and effectiveness of the electronic Patient Reported Outcome (ePRO) mobile application and portal system, designed to enable goal-oriented care delivery in inter-professional primary care practices. Study design: Multi-method pragmatic randomized control trial using a stepped-wedge design and ethnographic case studies over a 15-month period. Setting: 6 comprehensive primary care practices across Ontario. Population studied: Older adults with complex care needs; target sample 176 patients. Intervention: Patient and provider participants used the ePRO tool in addition to usual care. The 6 practices randomized into either early (3-month control; 12-month intervention) or late (6-month control; 9-month intervention) groups. Outcome measures: The Assessment of Quality of Life-4D collected at baseline and 3-month intervals. Ethnographic data (observations and interviews) collected at mid-point and end of the intervention. Outcome data were analyzed using linear models. Ethnographic data was analyzed using qualitative description and framework analysis methods, guided by Normalization Process Theory. Results: The trial experienced recruitment challenges resulting in fewer sites (n=6) and participants (n=45) than expected. As such the impact of ePRO on quality of life could not be definitively assessed; analysis trends suggest decreased quality of life for patients over both the control and intervention periods. Ethnographic data reveals a complex implementation process, in which the meaningfulness (or coherence) of the technology to individuals lives, relationships and approach chronic disease management drove adoption and perceived value or irrelevance of ePRO. Conclusions: Implementation challenges were broad and largely unexpected. The difficultly in aligning meaningfulness of a complex intervention across diverse user groups over time, suggests the intervention may not be sufficiently adaptable, or that more dynamic trial methods may be required.

Including ethnographic data collection reveals critical underlying mechanisms driving digital health innovations.