Implementation and evaluation of an integrated hospital-to-home transitional care intervention for older adults with stroke and multimorbidity: a feasibility study

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Maureen Reid1,2, Ruta Valaitis1,2, Amy Bartholomew1, Kathryn Fisher1,2, Rebecca Fleck3, Jenny Ploeg1,2, Jennifer Salerno1, Lehana Thabane4, Amiram Gafni4, Norman Archer5

1: Aging, Community and Health Research Unit, McMaster University, Canada; 2: School of Nursing, McMaster University, Canada; 3: Regional Rehabilitation Outpatient Services, Hamilton Health Sciences, Canada; 4: Health Research Methods, Evidence and Impact, McMaster University, Canada; 5: DeGroote School of Business, McMaster University, Canada

Introduction: Stroke is the leading cause of death and adult disability in Canada. Up to 80% of older adults (>65 years) who have suffered a stroke will return to their homes, and 60% will require ongoing rehabilitation in the community. The transition between hospital and home is very challenging, particularly for those with comorbidities. Little is known about the core elements for successful care transitions specifically for older adults with stroke and comorbidities. New, integrated interventions are needed to provide quality transitional care from hospital-to-home to reduce hospital readmissions and optimize transition outcomes for this vulnerable population.

Theory/Methods: This study used a single-site one-group pre-test/post-test design. Participants were recruited from a hospital-based outpatient stroke rehabilitation centre in Ontario, Canada. Eligible participants were >55 years with a confirmed diagnosis of stroke in the past 12 months, had > 2 comorbidities, referred to a hospital-based outpatient stroke rehabilitation centre, and community-dwelling. The intervention was a 6-month transitional care intervention delivered by an interprofessional (IP) team (Occupational therapist, Physiotherapist, Speech Language Pathologist, Registered Nurse, Social Worker). It involved care coordination, self-management education and support, home visits, telephone contacts, interprofessional case conferences, and a web-based app. The primary focus of the study was the feasibility of the intervention, which was determined based on information from interviews with providers, managers, and patients. Effectiveness of the intervention was of secondary interest in our study and was based on the 6-month change in health outcomes (health-related quality of life, depression, anxiety, self-efficacy), provider experience, and cost.

Results: In total, 30 (59%) of 51 eligible persons consented to participate. Of these, 25 (83%) completed the 6-month follow-up. Participants were an average of 71.3 years and had an average of 7 comorbid conditions. Providers and patients viewed implementation of the intervention as feasible and acceptable. Providers reported that the intervention improved communication and coordination among in- and outpatient teams, use of stroke best practices, and understanding of patients’ needs, and built capacity in stroke rehabilitation and collaborative care. The results
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indicate the potential for a clinically important improvement in the SF-12 physical component summary score at 6-months compared with baseline (Mean difference: -2.32, 95% CI: -6.83, 2.20). There were statistically-significant increases in the cost of use of outpatient services, physician specialists, and family physician visits. These increased costs were offset by a statistically-significant decrease in the cost of use of hospitalization and emergency room visits at 6-months compared with baseline.

**Discussion:** This study provides initial evidence for the feasibility and preliminary effects of the intervention in reducing the use of hospitalization and emergency department visits and improving provider and patient experience.

**Conclusions:** The results will inform knowledge users regarding the feasibility and preliminary effectiveness of a new and integrated intervention to optimize transitional care outcomes for older adults with stroke and multimorbidity.

**Suggestions for future research:** Future research is needed to further test this intervention using a pragmatic randomized controlled trial, larger sample size, and a full economic evaluation.

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**Keywords:** older adults; integrated care; transitional care; stroke rehabilitation; mobile apps