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Development and Evaluation of Self-Management and Task-Oriented Approach to Rehabilitation Training (START) in the Home: Case Report

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Background. The incidence of stroke and subsequent level of disability will increase, as age is the greatest risk factor for stroke and the world's population is aging. Hospital admissions are too brief for patients to regain necessary function. Research to examine therapy delivered within the home environment has the potential to expedite relearning of function and reduce health care expenditures.

Purpose. This case report describes the use of the knowledge-to-action cycle (KTA) to develop and evaluate an evidence-based approach for rehabilitation in the home that incorporates self-management and task-oriented functional training (TOFT) for people with stroke.

Case Description. The KTA cycle was used to guide adaptation of evidence from self-management and TOFT into an approach titled START (Self-Management and Task-Oriented Approach to Rehabilitation Training). Three stakeholder symposiums identified barriers and supports to implementation. Clinical practice leaders were engaged as partners in the development of the intervention. An online learning management system housed the resources to support therapist training. Therapist focus groups were conducted and stroke outcomes were used to assess patient response.

Outcomes. Eight therapists completed 4 workshops and applied the home intervention in 12 people with stroke. A mentoring process for therapists included feedback from peers and experts after viewing treatment videos. Therapist response was determined from the focus groups; patient response was measured by standardized assessments. The therapists noted that the intervention was easier to implement with patients who were motivated and had minimal cognitive impairment.

Discussion. The KTA cycle provided a structure for the development of this evidence-based rehabilitation intervention, which was feasible to implement in the home. Further evaluation needs to be undertaken to assess the effectiveness of START.

The disability associated with stroke will increase, as age is the strongest predictive risk factor for stroke and the segment of the population ≥ 65 years of age in North America is growing quickly.¹ Once medically stable poststroke, most patients with residual deficits in physical function and mobility would prefer to reside at home with access to rehabilitation services. Evidence from early supported discharge (ESD) studies is inconclusive, and sample sizes are typically small.² However, they have shown a reduction in length of hospital stay and admissions to long-term care facilities, improvements in activities of daily living (ADL), and increased satisfaction in older patients with moderate disability.³⁻⁵ A consensus document outlines team composition, model of team work, intervention, and criteria for success.⁶ A larger trial is needed using an evidence-based intervention to focus on whether ESD to home is superior to hospitalization, with consideration given to functional and economic outcomes⁷ and to identifying the determinants within the home that contribute to successful outcomes.⁸ A precursor to such a study is the development of a framework* for evidence-based home-based stroke rehabilitation (HBSR). In this case report, we outline the development of an evidence-based rehabilitation framework that incorporates both self-management and task-oriented training.

The purpose of this case report is to demonstrate how the knowledge-to-action (KTA) cycle⁹ was used to adapt the best-available evidence into a framework titled START (Self-Management and Task-Oriented Approach to Rehabilitation Training), an intervention that physical

therapists and occupational therapists delivered to people with stroke in their home environment. The START intervention incorporates self-management and task-oriented functional training (TOFT) principles to address patient goals. Specifically, the goal of the case report was to develop an intervention to optimize physical function and self-management skills for patients with stroke.

Case Description

The project was undertaken using the steps outlined in the KTA cycle (Fig. 1). The emphasis for this project was on the action phase of the cycle because we relied on the investigators, who were content experts and provided the evidence about motor learning and self-management. All participants (both therapists and patients) provided written informed consent prior to enrollment in this project. Hamilton Health Sciences/Faculty of Health Sciences Research Ethics Board reviewed the project and granted ethics approval (REB#08-596).

Step 1. Identification of the Problem

Rehabilitation in the home environment is under-researched. A review showed that HBSR improved independence in ADL; however, the nature and content of the therapy was unclear.¹⁰ Studies have attempted to explore the meaning and content of HBSR from the patient's and therapist's perspectives.^{11,12} Therapists often provide HBSR instinctively, without explicit or propositional knowledge.^{11,12} An explicit explanation rather than a tacit understanding is imperative for communication between therapists and students, and for communication with patients. By articulating the underlying concepts and sharing knowledge about the intervention being delivered, it can be adapted in different contexts, contributing to the ongoing development of the intervention itself.¹³

Relative to in-hospital rehabilitation, patients in the home environment assume responsibility, influence, and control for the rehabilitation process while therapists use creativity to guide and develop each patient's problem-solving skills pertinent to his or her unique environment and roles.^{11,12} The use of social cognitive theory with motor learning to explain the therapist's role within the home using skilled teaching and patient learning may further explicate the meaning and added value of HBSR.¹⁴ The home environment may allow for more efficient learning through the use of meaningful task-practice conditions to explore challenges and promote problem-solving skills.¹⁵ The rationale for HBSR rather than institution-based rehabilitation includes the importance of relearning functioning within an ecologically valid environment, expedited reintegration, and potential cost savings.

Step 2. Identify, Review, and Select Knowledge to Adapt to Local Context

Two investigators (J.R., L.L.) met with the clinical leaders of Community Rehab (providers of in-home therapy services) to explore the components of practice in the home and to develop an understanding about the process of care on which to develop HBSR. A review of evidence related to self-management and task-oriented functional training was undertaken by the experts on the project team, who then developed a training manual detailing the home-based intervention, which the therapists received.



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- **eAppendix:** Supplemental Figures and Tables

* A framework, in this context, is a conceptual organization that explains the relationship among the key factors, concepts, or variables in a manualized intervention.

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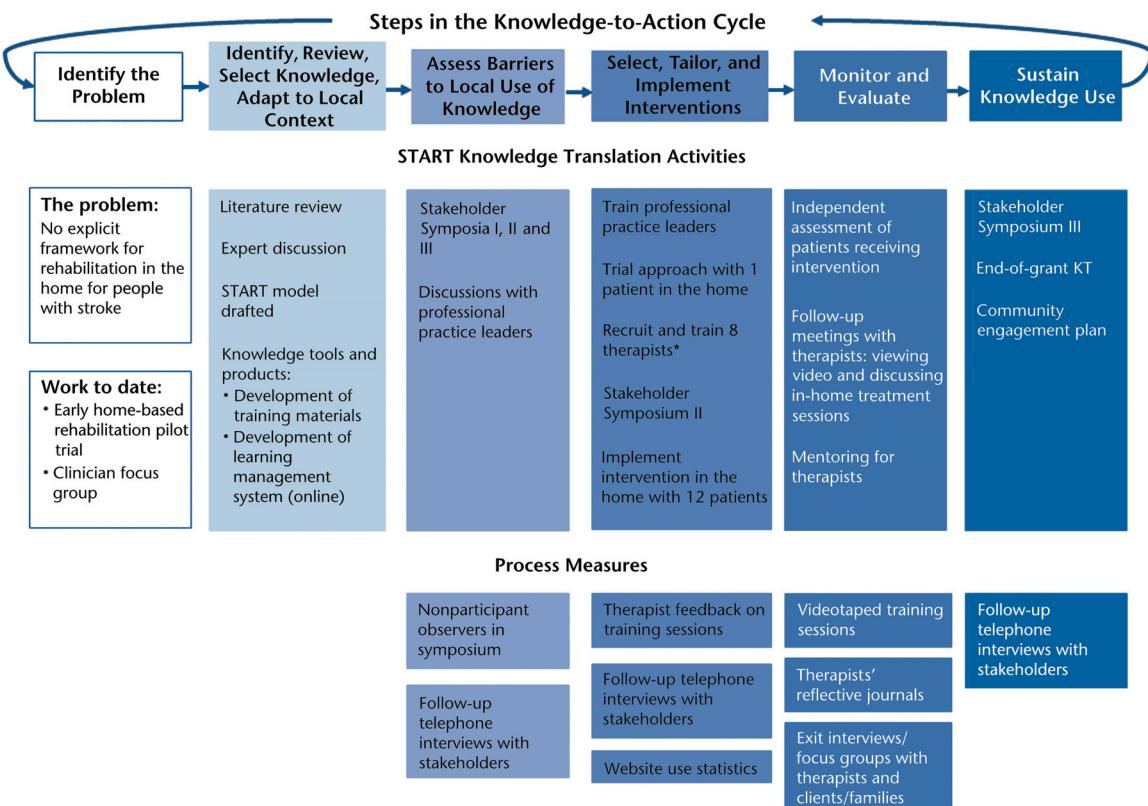


Figure 1.

Development of the Self-Management and Task-Oriented Approach to Rehabilitation Training (START) using the knowledge-to-action cycle. KT=knowledge translation. *Four half-day sessions: practice with standardized patients and patients with stroke. Adapted from Graham ID, Logan J, Harrison MB, et al. Lost in knowledge translation: time for a map? *J Contin Ed Health Prof*. 2006;26:13-24, with permission of Wiley & Sons Inc.

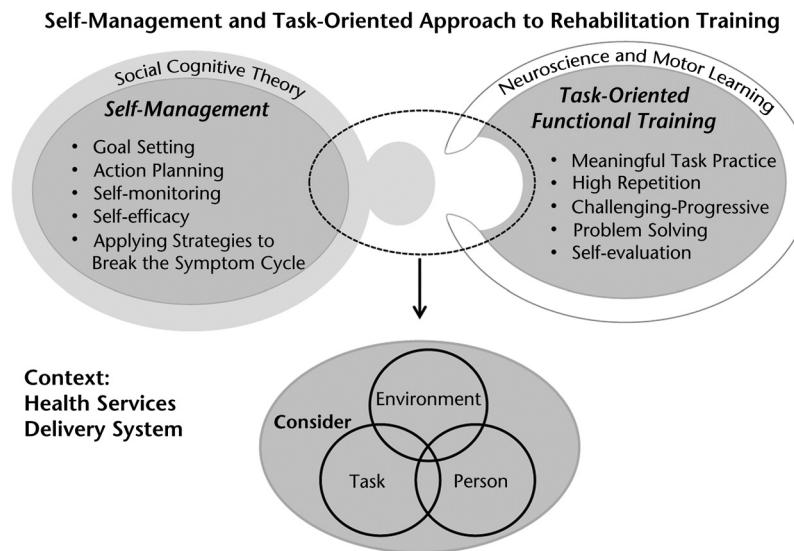
Developing the START model. The development of the START model is illustrated in Figure 2. The targeted patient population was able to identify goals and participate in the development of action plans. The principles of both components (self-management and TOFT) were the same as outlined in the literature, and the adaptation occurred in the implementation. For example, a patient who identified the goal of increasing upper extremity function chose to do this by practicing folding clothes (TOFT), making the application ecologically valid. Patients chose self-management strategies that were most relevant to the issues they were having (ie, improving posture, managing challenging emotions, finding resources) (see Tab. S3 in the **eAppendix**, available at

ptjournal.apta.org, for a complete list of self-management strategies).

Evidence for self-management. Secondary sequelae such as depression, fatigue, and difficulty sleeping contribute to the burden of stroke and are often not well addressed in rehabilitation; they may limit the benefits of physical rehabilitation interventions.¹⁶ The Stanford Chronic Disease Self-Management Program (CDSMP) was designed to provide a generic approach to self-management.¹⁷ The self-management component of the intervention, based on social cognitive theory,¹⁸ addressed lifestyle modification to manage the ongoing sequelae of stroke (eg, fatigue, difficult emotions, lifestyle changes) and risk factors for future stroke. Failure

to address these issues could reduce participation in the rehabilitation process. A person with stroke needs to make lifestyle changes inherent in living with a chronic condition and self-manage the symptoms, the treatment, and the physical and psychosocial consequences of the stroke. Thus, a dynamic and continuous process of self-regulation is established.

Clinical trials of these programs show significant improvement in frequency of health behaviors, health efficacy, health status, and reduced hospitalizations in people with chronic conditions, including stroke.^{19,20} Recently, a stroke-specific self-management program was pilot tested with 47 survivors of stroke,²¹ and the randomized controlled trial (N=143) showed greater

**Figure 2.**

Self-Management and Task-Oriented Approach to Rehabilitation Training (START) model.

completion and participation rates than with the generic program, reduced depression and anxiety, and greater engagement in life compared with the standard care group. Participants reported improved community re-engagement and quality of life.²² Other stroke-specific group self-management programs have been described but not evaluated.^{23,24}

The key principles of self-management in START are: (1) goal setting and action planning, (2) problem solving, (3) self-monitoring, (4) establishing self-efficacy, and (5) applying strategies to break the symptom cycle (for details about how these principles were implemented and adapted, see Fig. A1 in the *eAppendix*).

Evidence for TOFT. Task-oriented functional training is an approach to retraining skills to optimize function for patients following stroke. It is based on contemporary motor learning and motor control theories supported by neuroplasticity research.^{14,25,26} Movement emerges as an interaction among different sys-

tems and is organized in response to a behavioral goal, constrained by the environment.¹⁵ Therefore, the focus of therapeutic interventions to retrain movement control is intensive practice of purposeful, challenging tasks and problem solving rather than the restoration of movement patterns.¹⁵ The *SCORE (Stroke Canada Optimization of Rehabilitation Through Evidence) Evidence-Based Recommendations for the Upper and Lower Extremities and Risk Assessment Post-Stroke* (2007)^{27,28} states that, according to Level I (randomized controlled trials) evidence:

- Training techniques should use the involved limb in “repetitive and intense use of novel functional tasks and activities.”
- Patients should practice skills in their daily routine.²⁹
- Interventions should include task-specific training and motor learning^{29,30} and functional training.^{31,32}
- The target population is patients with some voluntary movement who have achievable functional goals through motor remediation and the capacity to participate in goal setting and self-evaluation.

Key principles of TOFT in START include: (1) set meaningful functional goals with the patient; (2) practice meaningful, challenging, and functional tasks; (3) maximize the amount of practice; and (4) the patient is a problem solver. (For details about how these principles were implemented, see Fig. A2 in the *eAppendix*.)

Resources for therapist training.

We developed a training manual that outlined the key principles of START, which included a summary of the supporting literature on motor learning principles. Based on the literature, the components of TOFT were summarized in a guideline for therapists (see Tab. S1 in the *eAppendix*). A cue card (see Tab. S2 in the *eAppendix*) was developed that outlined the components of motor learning principles for therapists to consider when designing the tasks and planning schedules of practice. Forms were created to record the patient’s goals, tasks, practice plan, action plans, and daily practice. The self-management component of the manual was a derivative of the Stanford CDSMP.¹⁷ It outlined an individualized approach to self-management for people with stroke that therapists could deliver in the home. As an active self-manager, the patient’s goal was to become proficient at role management (ie, carrying out normal activities such as chores, employment, social life, and leisure), emotional management (ie, coping with challenging emotions as a result of illness), and physical management (ie, taking care of the patient’s health care problem, exercising, changing the patient’s diet). (For details of the self-management component of the manual, see Tab. S3 in the *eAppendix*.)

Learning management system.

An open source e-learning software platform called Moodle (Modular Object-Oriented Dynamic Learning

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Environment) (Moodle Pty Ltd, Perth, Western Australia, Australia) for therapist training housed all of the materials and forms developed for the training manuals to allow therapists to access the resources via the Internet. Video clips of professional practice leaders (PPLs) applying key principles of the TOFT and self-management intervention in the home with simulated and “real” patients were available on this platform. A self-assessment quiz allowed therapists to assess their knowledge of the intervention and to identify gaps that could be addressed by further learning. The website (www.startathome.ca) was password protected. Therapists were asked to view all video clips prior to the therapist training sessions, and we collected website use statistics, including the amount of time therapists spent on the website and which resources they accessed (see Tabs. S4, S5, and S6 in the [eAppendix](#)). There were 22 video clips for the therapists to view, which included goal setting, functional practice, and negotiating the practice plan. The percentage of therapists who accessed the clips ranged from 87% for goal setting to 25% for challenging task practice; the median was 50%.

Step 3. Assess Barriers to Local Use of Knowledge

The details of this portion of the KTA process and results will be reported elsewhere. In summary, we held 3 stakeholder symposiums in which we described the project, received input about the system barriers, and discussed the implications for both future practice and the health care delivery of HBSR as part of the continuum of care. There were 8 stakeholders from different health care sectors, including a provincial stroke organization, an acute care institution providing stroke care, a regional government organization, and a home care service organization. The

barriers identified at a system level were related to the delivery of stroke care in silos rather than as an integrated approach, the difficulty in funding the number of visits required to deliver the intervention, and the allocation of funding dollars to nursing and medicine rather than to rehabilitation.

Step 4. Select, Tailor, and Implement the Intervention

Involvement of PPLs. The occupational therapist and physical therapist PPLs from the partner agency helped develop the project materials and the intervention guidelines. They also provided input as to how the intervention should be applied in the context of their regular practice. Following 4 half-day training sessions (which covered the background, purpose, and methods of the project; the mode; and key principles of the intervention), the PPLs pilot tested the intervention with a simulated patient in her home, and videotapes were made to train the therapists.

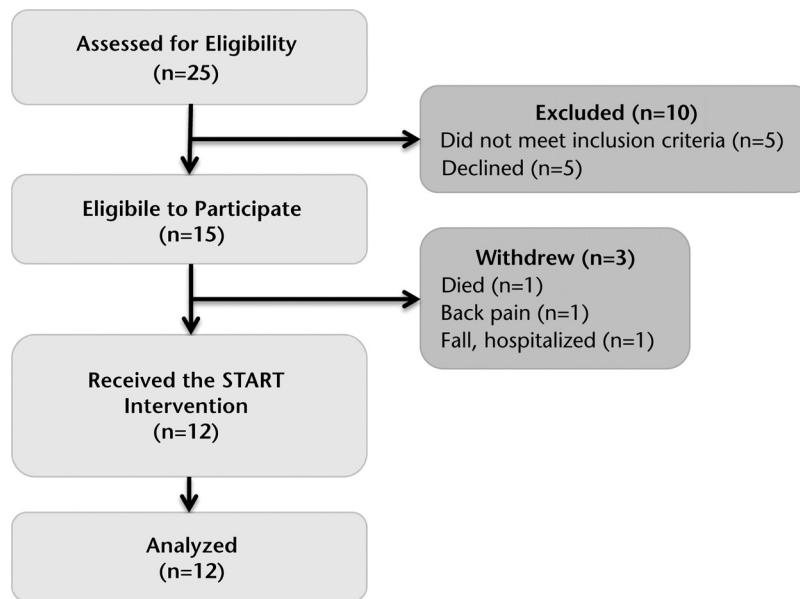
Therapist recruitment and training. Eight therapists (4 physical therapists and 4 occupational therapists) were recruited by the PPLs, forming 4 dyads each with an occupational therapist and a physical therapist. Three physical therapists and 1 occupational therapist withdrew from the project following the initial training sessions, requiring the training of 4 additional therapists. The reasons for discontinuing were provided by the therapists and are shown in Figure A3 of the [eAppendix](#).

Therapist training sessions. Four training sessions (each 3 hours) were held at McMaster University attended by the therapists and PPLs. During the sessions, therapists were provided with an overview of the project (intervention rationale, evidence, principles, and interface

between self-management and TOFT), the intervention manual, a review of the documentation processes, and instructions for using the Web-based learning platform. Working in dyads, they practiced and were videotaped using these principles with patients with stroke and with a standardized patient. Investigators and PPLs provided guidance and feedback to the therapists. Finally, the therapist dyads delivered the intervention in the home, selecting 2 sessions to be videotaped for use in the mentoring process (see Fig. A3 in the [eAppendix](#)).

Step 5. Monitor Knowledge Use and Evaluate Outcomes

Each dyad of therapists treated 3 or 4 patients in the home, and each profession was allocated 10 visits per patient. The first 2 in-home visits were focused on TOFT, and self-management was introduced during the third visit. Joint visits occurred when appropriate; both therapists delivered the TOFT, and one therapist led the self-management component. Patients were included if they met the following criteria: time since stroke ≥ 6 months, diagnosed with first ischemic stroke (preferably confirmed by computed tomography or magnetic resonance imaging), some active movement in the upper extremity during recovery, able to walk ≥ 2.44 m (8 ft) and able to transfer to a chair, cognitive function score of 26 points on the Montreal Cognitive Assessment, no receptive aphasia, and able to communicate in English. The criteria were provided to therapists in local hospitals and in the community who had treated or were treating patients with stroke either in the home or in outpatient settings. If patients met the inclusion criteria, were likely to have some rehabilitation goals, and consented to participate, they were included in the intervention and evaluation.

**Figure 3.**

Flow of patients through the project. START=Self-Management and Task-Oriented Approach to Rehabilitation Training.

There were 2 aspects to the project: patient improvement and therapist learning. For the patient-focused aspect, the objectives were: (1) to assess the feasibility of delivery of the intervention as reported by the therapists and the patients, (2) to assess the change that occurred in function and self-management skills by the end of the intervention, and (3) to assess the satisfaction experienced by the participants.

Description of sample. A convenience sample of 15 patients participated in the feasibility assessment of the intervention. The patients (for baseline characteristics, see Tab. 1) were referred from several sources: another stroke study (n=9), a community agency (n=2), and a stroke unit (n=4). Three patients withdrew for the following reasons: back pain (n=1), a fall resulting in hospitalization (n=1), and death (n=1) (Fig. 3). The number of home visits provided by the therapists ranged from 3 to 10 ($\bar{X}=7$) for physical therapists and from 3 to 9 ($\bar{X}=7$) for occupational therapists.

Table 1.
Baseline Characteristics^a

Variable	Measurements
Sex	9 men, 6 women
Age (y), \bar{X} (SD) [range]	65.5 (5.49) [19-87]
Marital status	60% currently married
Years of education	13.7 (0.81)
Time since stroke (mo)	8.82 (2.27)
Length of hospital stay (d)	55.43 (10.33)
Length of time in inpatient rehabilitation (d)	63.36 (21.55)
Side of hemiparesis	Right (33.0%)
CMSA, arm	4.71 (0.54)
CMSA, hand	4.29 (0.55)
CMSA, leg	4.86 (0.36)
CMSA, foot	3.64 (0.56)
Other health problems in previous 6 mo	40% had one or more additional health problems
Self-rated health (5-point scale from poor to excellent)	2.2 (0.37)
Presence of pain or discomfort	26.7% were usually not free of pain or discomfort

^a Data are expressed as mean (SD) except as otherwise indicated. CMSA=Chedoke-McMaster Stroke Assessment.

Outcomes

Baseline and Follow-up Assessments

A single-group before-after design was used. The following constructs were evaluated: (1) self-management skills, using the short-form Patient Activation Measure (PAM)³³; (2) strength, hand function, mobility, and ADL and instrumental ADL, using the physical dimension score of the Stroke Impact Scale-16³⁴; (3) physical function, using the Barthel Index³⁵ and the Timed "Up & Go" Test (TUG)³⁶; and (4) satisfaction, using a modified version of the Patient Satisfaction Questionnaire (modified PSQ-18).³⁷ Two physical therapists not involved in the project completed the assessments at baseline and immediately following the intervention. Stata 10 (StataCorp LP, College Station, Texas) was used to

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Table 2.

Outcome Measure Results for Participants With Stroke

Variable	Initial Score \bar{X} (SD)	Final Score \bar{X} (SD)	Difference \bar{X} (SD)	95% Confidence Interval	P
TUG (s)	32.56 (22.65)	19.30 (12.53)	-13.26 (13.28)	3.76, 22.75	.01
Barthel Index (range=0-100, with higher scores indicating greater functional independence)	79.23 (15.12)	89.23 (8.13)	10 (11.55)	-16.98, -3.02	.01
Stroke Impact Scale-16 (maximum score=80, with higher scores indicating less impact of stroke on performance of ADL/IADL)	56.77 (11.11)	64.38 (10.94)	7.62 (6.45)	-11.44, -3.79	.001
Patient Activation Measure (range=0-100, with higher scores indicating greater patient activation)	64.8 (19.28)	71.82 (11.68)	7.01 (14.96)	-16.06, 2.03	.12
Modified PSQ-18				Mean Score (/5)	
Subscales:	General Satisfaction			4.25	
	Technical Quality			4.3	
	Interpersonal Manner			4.7	
	Communication			4.6	
	Financial Aspects			3.8	
	Time Spent With Rehabilitation Professional			4.4	
	Accessibility and Convenience			3.6	

^a TUG=Time "Up & Go" Test, ADL=activities of daily living, IADL=instrumental activities of daily living, modified PSQ-18=modified version of Patient Satisfaction Questionnaire-18.

analyze the data. Parametric statistics (*t* tests) were used to evaluate change for all of the measures. Initial and final scores and the mean difference between them for the 4 main outcome measures are presented in Table 2. Significant changes were observed in 3 of the 4 measures: the TUG, the Barthel Index, and the Stroke Impact Scale-16. Patient satisfaction scores also are presented in Table 2. Patients reported the highest levels of satisfaction on the Interpersonal Manner ($\bar{X}=4.7$) and Communication ($\bar{X}=4.6$) subscales and the lowest satisfaction ($\bar{X}=3.6$) on the Accessibility and Convenience subscale.

Mentoring of Therapists

The objective for the therapist-focused aspect of this project was for therapists to understand the principles underlying the START intervention and learn the skills associated with delivering the intervention in the home to people with stroke.

Two videos were made by each dyad, and each video was viewed by 3 members of the investigative team (J.R., V.D.P., and A.O.). Feedback was provided to the therapists individually by email. Clips of videos that characterized the therapy were reviewed and discussed by the therapists and investigators as a group using a checklist of intervention criteria. Therapists discussed the application of the intervention in these specific clinical cases and learned from observing colleagues' practice.

Analysis of Reflective Journals and Focus Groups

Conventional content analyses were conducted on data from the focus groups and the therapists' reflective journals.³⁸ Investigators reviewed the transcripts from all of the focus groups (S.W. and A.O.) and the reflective journals (L.L. and J.R.). Independent, line-by-line analysis was then used to generate initial codes, which were consolidated into

categories. Quotes that corresponded to the established codes and categories were extracted (results of reflective journals and therapist focus group questions are shown in Fig. A3 in the [eAppendix](#)). Briefly, the therapists reported that the intervention enabled the patients to set their own goals and plan and record their practice. They were able to utilize the home environment to practice tasks. Limitations were often related to the patients' fatigue and difficulty with problem solving.

Themes Emerging From the Focus Group

Uncertainty regarding knowledge translation. Therapists initially expressed uncertainty about the meaning, design, methods, and outcome measures for knowledge translation. Therapists' comfort level increased with increased exposure to the intervention and practice:

They're basically saying the researcher is doing all this work over here, and we're treating over here, and there needs to be translation.

Intervention: Self-management. Therapists observed that self-management involves a less instrumental approach than TOFT and may be more difficult for patients with cognitive issues. Women were more engaged in self-management than men, and caregivers also reported the benefit of self-management. Patients who were a shorter time since stroke demonstrated less insight into the impact of stroke on their life and had more difficulty understanding the relevance of self-management.

TOFT. Identifying goals for patients with low upper extremity functioning was sometimes difficult. Some patients required support to complete between-session practice. Therapists gained greater proficiency as they practiced the intervention.

Collaboration between physical therapist and occupational therapist. Therapists were less isolated completing joint visits compared with usual practice; they were able to brainstorm issues, which resulted in less repetition and increased consistency with goal setting.

Community Care Access Centre (CCAC) directive versus START approach. Challenges to implementing the START approach were encountered within the health care delivery system. It was not usual practice for some therapists to provide rehabilitation or remediation in the home; their role was to address home safety and equipment issues. Both therapists and patients expressed increased satisfaction in the amount of time allocated to treatment, allowing them to address goals

not normally supported by the CCAC:

I think in our CCAC world, that would have been somebody we would have gone in to do...transfers with or stair safety or...mobility aid or something, and it would have been very much an in-and-out type of situation.

Home environment. Therapists reported their use of the home environment was similar to their previous practice. The home environment made rehabilitation more applicable, relevant, and motivating for the patient, where barriers to functioning were more obvious to the patient and the therapist. The caregiver's confidence in the patient's ability increased, resulting in greater patient independence:

I couldn't understand when a patient came back from a weekend pass, that when he told me he couldn't walk in his house, because he had been walking well in the gym.... So doing something you have to do in your home environment, that's where you need to practice it.

Patient characteristics. Therapists noted that patient characteristics, such as intact memory, younger age, and initiative, affected their response to therapy. Older patients, compared with younger patients, were less engaged in problem solving, setting treatment goals and planning for discharge. Recordkeeping was difficult for some patients. Patients with more recent strokes were less inclined to address chronicity issues through self-management strategies. Motivation to change was an important characteristic to engage the patient in the START therapy. Patients with a personal support worker to assist with bathing or dressing were less motivated to engage in therapy.

Therapist characteristics. Some therapists were early adopters of the

intervention, whereas others had difficulty providing less direction to the patients. Some therapists needed more time for training than we had allowed:

I guess that we were there to basically help these people learn how to manage their conditions—how to set goals, what to do if there is a problem instead of returning to doctors or physio [physical therapist]—to actually empower people to take charge of their health, their well-being, and continue doing it independently and seek help when it's really necessary, but not for the same thing that was addressed so many times before.

Discussion

The KTA cycle⁹ provided an excellent sequential structure for the development of this evidence-based rehabilitation intervention in the home for people with stroke. It provided the important stages in which to engage the knowledge users in the process. It also provided an explicit rather than implicit description of the knowledge¹¹ that supports the intervention. The theoretical underpinning and instrumental approach to the therapy were articulated by outlining the evidence, principles, resources, and training process for the intervention.

START is a therapeutic program to retrain physical function poststroke and to provide self-management skills for the ongoing management of the underlying issues related to stroke and changes in functional ability. This is the first detailed evidence-based program documented in the literature that provides a framework for rehabilitation practice in the home environment. The 2 components of the program have complementary strategies, including goal setting, action planning, and problem solving, to achieve patient-identified goals, which reinforced adoption by the therapists and the patients. START was feasible within

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the home environment, as the therapists were able to deliver the intervention and the patients were recruited and participated in the intervention.

Therapists reported it was easiest to involve motivated patients who could engage in the cognitive activities required by both intervention components. We did not formally assess motivation, which would be important in a larger trial.

The self-management component was based on a generic program and engaged the patient individually. This format provided a more tailored intervention but lost the benefits of group discussions of barriers and solutions to issues and the sharing of a common experience. A recent systematic review of the literature on self-efficacy and self-management poststroke concluded that the optimal format for delivering an SM intervention poststroke is not clear³⁹; however, therapists can successfully engage patients about lifestyle issues.⁴⁰ Stroke-specific self-management programs have resulted in greater participation compared with generic programs, but these are group programs and not adapted or tested for individual patients.²¹ Delivery of self-management created a more holistic role for therapists, addressing issues such as fatigue that affect the patient's function and ongoing reintegration into prestroke roles.⁴¹⁻⁴³ Incorporating self-management within the home takes a preventative approach to longer-term issues previously left to the patient and caregiver.

In general, patients were satisfied with the rehabilitation that they received in the home. The low level of satisfaction related to the Accessibility and Convenience subscale of the PSQ-18 was an unanticipated finding. One possible explanation for this finding might be that patients

were asked to "keep in mind the rehabilitation they received over the previous 18 months," which could have included any combination of inpatient, outpatient, and in-home therapy. As a result, their scores may be a reflection of their lack of satisfaction with access to and waiting times for their rehabilitation in general, not just the rehabilitation they received in the home.

The use of standardized patients during initial practice sessions may have enabled therapists to gain greater proficiency before engaging with an actual patient. The therapists expressed greater satisfaction using the START intervention to deliver rehabilitation in the home, as it enabled them to have more visits and to make observations and offer solutions about the patients' functioning earlier in their recovery.

This project was limited to the adoption of the START intervention by professionals rather than integration within a health system. A randomized design with an economic analysis is needed to determine whether the START intervention versus usual care results in improved functional outcomes and more efficient and satisfying community reintegration.

Dr Richardson, Dr DePaul, Dr Wilkins, Dr Letts, Dr Bosch, and Dr Wishart provided input to concept/idea/project design. Dr Richardson wrote the original draft of the manuscript, and Dr DePaul, Dr Wilkins, Dr Letts, and Dr Bosch provided comments and editing. Dr Richardson, Dr DePaul, and Dr Wilkins provided data collection. Dr Richardson, Dr Wilkins, Dr Letts, and Dr Bosch provided data analysis. Dr Richardson and Ms Officer provided project management. Dr Richardson provided fund procurement. Dr DePaul provided consultation (including review of manuscript before submission).

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