

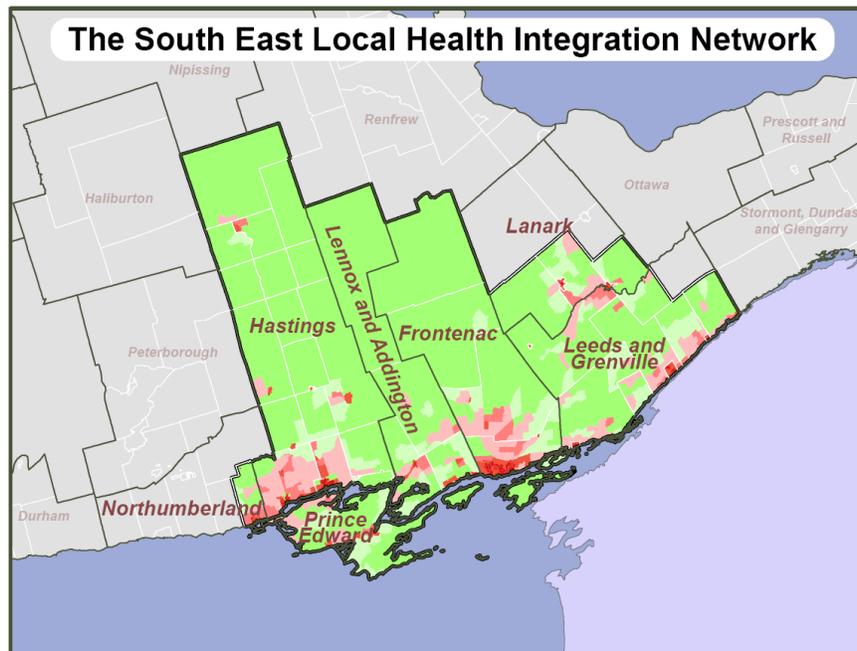
---

# FINAL REPORT

---

Enhancing Community and LTC Rehabilitation Services  
for Stroke Survivors: Improving the System of Care  
in Southeastern Ontario

## The Discharge Link 2009-2012



South East  
**CCAC**  
Community  
Care Access  
Centre

**CASC**  
Centre d'accès  
aux soins  
communautaires  
du Sud-Est

**STROKE NETWORK**  
of Southeastern Ontario

Ontario  
**Stroke** System  
*Fewer strokes. Better outcomes.*

## Executive Summary

### Enhancing Community Based Rehabilitation Therapy Services for Stroke Survivors: A Joint Initiative of the SE Community Care Access Centre (CCAC), SEO Stroke Network and the SE Local Health Integration Network

Intensive rehabilitation service post-stroke is critical to maximizing outcomes and improving inpatient flow. The Stroke Rehabilitation Pilot Project of Southeastern Ontario, Part I - Discharge Link Project Stroke Strategy of SEO, Nov 2004 clearly demonstrated improved patient outcomes through enhanced community rehabilitation. This follow-up 2009-2012 Discharge Link Initiative specifically evaluates health system implications of intensifying community-based stroke rehabilitation upon transition to home or LTC for those unable to access outpatient care.

This Regional initiative explores best practices for community-based stroke rehabilitation, supporting enhanced timeliness and intensity of community-based rehabilitation services provided to stroke survivors with new disabilities. It also supports improved communication of the plan of care on transition from hospital to home. Objectives include the evaluation of community based stroke rehabilitation practices and health system improvements related to the provision of:

1. Enhanced timeliness and intensity of community-based rehabilitation therapy;
2. "Discharge link" meetings between hospital and community rehabilitation therapists to augment coordination of service and provider communication within and across teams;
3. Educational opportunities to build interprofessional capacity for stroke rehabilitation expertise in community settings.

From February, 2009 to March, 2012, over 600 eligible stroke survivors across Southeast, on transition from hospital to home, a residential setting or a Long Term Care Home received timely, enhanced community-based rehabilitation from an interprofessional team for two months post-discharge. The enhanced rehabilitation services are provided by Occupational Therapists (OT), Physiotherapists (PT), Social Workers (SW) and Speech Language Pathologists (SLP). These services are 'front-end' loaded in the first eight weeks to maximize treatment effects. Prioritization by CCAC allows for a timely first therapy visit (i.e., high priority visit within five days). Collaborative planning occurs across sectors through Discharge Link meetings between community/LTC and hospital rehabilitation providers. These meetings optimize communication between providers and maximize continuity of the client's plan of care. The intervention also includes access to best practice stroke educational resources including incentive funding for collaborative "shared work experiences" to develop interprofessional stroke expertise.

At FYE 2012, the mean number of community therapy visits averaged 12 per client. The provincial benchmark at that time was 6.8 visits. Since implementation, Occupational Therapy and Physiotherapy visits doubled and tripled respectively for patients discharged from inpatient rehabilitation. Frequency of service for Social Work increased from 11% to 28% and frequency of service for Speech-Language Pathology increased from 12% to 36%. System improvements for those receiving enhanced rehabilitation included: a decrease in hospital length of stay of **15.7 days** (without negative impact on functional independence) and decreased one-year

readmission rates. Average community rehabilitation wait times improved from 44 days pre-implementation to 4.36 days.

Intensification of community therapy visits improves patient outcomes and health system utilization. The motivating and valuable findings summarized below warrant consideration for the development and ongoing support of innovative outpatient and community rehabilitation programs:

- Community rehabilitation therapy service intensity has increased and is being accessed far sooner under the enhanced initiative than prior to DL initiation.
- The wait time for initiation of community based rehabilitation therapy upon hospital discharge for a new stroke survivor has decreased from an average of 44 to 4.36 days.
- Therapy by discipline is accessed more frequently, with a significant referral rate increase noted in all disciplines (SLP, PT, OT and SW).
- A 15.7 day decrease in hospital length of stay has been observed for stroke clients following initiation of enhanced community-based therapy.
- One year readmission rates to hospital have been observed to be lower for clients discharged directly from acute care to home who receive CCAC enhanced community rehabilitation services.
- For those readmitted, the number of readmissions per client has been lower for those who received enhanced community rehabilitation services.
- Clients who received some form of rehabilitation service on discharge from acute care (either inpatient rehabilitation or enhanced community based rehabilitation) have had lower readmission rates at one year than those who were discharged without rehabilitation.
- Further evaluation of ED visits and of the reasons for readmissions and ED visits is warranted.
- Development of stroke expertise and rehabilitation capacity has been achieved through interprofessional cross-sectoral collaboration and through shared work day opportunities.
- Improved communication and transition of the care plan across sectors have been achieved through the Discharge Link meetings and through the embedded practices on client transitions.

Given the positive results of the Discharge Link initiative and its preceding Pilot Project, it is recommended that CCAC funding for this timely enhanced community-based stroke rehabilitation service be sustained across SEO. The priority rating and intensity of rehabilitation service have been critical to the positive stroke care outcomes. Other recommendations include:

- ongoing interprofessional education to build community capacity for stroke rehabilitation expertise;
- recruitment and retention of staff with stroke rehabilitation expertise;
- inclusion of rehabilitation assistants in the service delivery model;
- service delivery modifications, including consideration for group therapy for functional communication;
- innovative solutions to overcoming barriers in rural service delivery and in LTC homes and
- improved access to health system data for cross-continuum evaluation.

For a detailed summary of the recommendations, please refer to pages 30-31 of this Report. It is recommended that this initiative be considered for transfer to other complex conditions and to other regions of Ontario.

The provision of timely intensive stroke rehabilitation services upon transition to the community has a positive impact on health system utilization. Developing and sustaining the Discharge Link Service has been an innovative and cost effective community-based rehabilitation program that has been associated with improved client function, decreased length of hospital stay and reduced hospital readmission rates. We wish to acknowledge and thank the numerous hospital and community health care professionals who were involved in this service provision. In the words of the stroke survivors receiving these services:

*“I was fortunate to be in a position to access these services....”*

*“It’s amazing what rehab will do....”*

*“I got help from great people interested in rehab – rehab works!”*

For further information, please contact:

Caryn Langstaff, M.Sc., SLP(C)  
Regional Stroke Rehabilitation Coordinator  
(613) 549-6666, ext. 6841  
[langstac@kgh.kari.net](mailto:langstac@kgh.kari.net)

## Acknowledgements

The Discharge Link initiative was a successful collaboration of the South East Community Care Access Centre (SE CCAC), the Stroke Network of Southeastern Ontario (SEO) and the South East Local Health Integration Network (SE LHIN). The numerous health care agencies throughout Southeastern Ontario who actively partnered in this project also warrant acknowledgement. Those agencies include all Community Rehabilitation provider agencies (Kaymar Rehabilitation, Communicare Therapy and Quinte District Rehabilitation), Brockville General Hospital, Kingston General Hospital, Lennox and Addington County General Hospital, Perth and Smiths Falls District Hospital, Providence Care, St. Mary's of the Lake Hospital and Quinte Health Care.

The implementation team wishes to acknowledge and thank the numerous hospital and community health care professionals who were involved in this service provision including CCAC Case Managers. A special thank you is extended to Don McGuinness, Data Analyst for the South East LHIN, who supported ongoing review and interpretation of the data, as well as completing the formal statistical analysis.

Sincere thanks are extended to the clients and their caregivers who were involved in the enhanced community-based rehabilitation services and who live with the reality of stroke every day.

Special thanks to team members, past and present, for their dedication and commitment to this very important initiative:

**Gwen Brown, Community and LTC Coordinator, Stroke Network of SEO**  
**Kim Fletcher, Past SECCAC Project Lead**  
**Nancy Jones, Past Stroke Network Project Lead**  
**Caryn Langstaff, Rehabilitation Coordinator, Stroke Network of SEO, Project Lead**  
**Jennifer Loshaw, SECCAC Director**  
**Cally Martin, Regional Director, Stroke Network of SEO**  
**Jo Mather, Manager, Client Services, SECCAC, Project Lead**  
**Don McGuinness, Data Analyst, SE LHIN**  
**John Paterson, Past Stroke Network Pilot Project Lead**  
**Mark Walden, Past CCAC Director**

This report was prepared by The Stroke Network of Southeastern Ontario.



For further information, please contact:

Caryn Langstaff, M.Sc., SLP(C)  
Regional Stroke Rehabilitation Coordinator  
(613) 549-6666, ext. 6841  
[langstac@kgh.kari.net](mailto:langstac@kgh.kari.net)

## Table of Contents

BACKGROUND.....	2
Rationale: Evidence and Needs .....	3
OBJECTIVES.....	4
METHODS .....	5
Population .....	5
Consent .....	5
Intervention .....	6
Enhanced Rehabilitation Intensity.....	7
Roles and Responsibilities .....	8
Case Managers .....	8
Hospital Healthcare Teams .....	9
CCAC Rehabilitation Therapy Providers .....	9
Project Coordinators .....	10
Discharge Link Meetings .....	10
Building Expertise .....	11
Evaluation .....	11
Process Indicators .....	11
Outcome Indicators and Data Sources .....	12
Quantitative .....	12
Qualitative Findings .....	12
Data Analysis .....	13
RESULTS.....	13
Process Indicators .....	13
Wait Times .....	14

Rehabilitation Service Intensity: Referral and Visit Rates .....	14
LTC Visit Rates .....	14
Home-Based Community Referral Rates .....	15
Building Expertise .....	16
Outcome Indicators .....	17
Health Care Utilization .....	17
Length of Stay .....	17
FIM Change and FIM Efficiency .....	18
Readmission Rates .....	18
Qualitative Findings .....	20
Client Interviews .....	20
Provider Feedback .....	21
Cost Analysis .....	24
Summary .....	24
DISCUSSION .....	25
Building Capacity to Deliver Community-Based Stroke Rehabilitation Services .....	25
Rehabilitation Day Hospital and Community Rehabilitation Services .....	26
Wait Times .....	26
Health System Utilization and Patient Flow .....	26
Length of Stay .....	27
Client Function .....	27
Readmission Rates .....	27
Cross-Sectoral Collaboration, Transition Management and Rehab Expertise .....	28
Sustainability and Cost Analysis .....	28
Transferability .....	29
RECOMMENDATIONS .....	30
CONCLUSION.....	31

## List of Appendices

Appendix A .....	33
2002-2004 Discharge Link Pilot Background .....	34
Appendix B .....	38
Shared Work Experience Information .....	39
Appendix C <sub>1</sub> .....	40
Case Manager Protocol: Clients Discharged to Community .....	41
Appendix C <sub>2</sub> .....	44
Case Manager Protocol: Clients Discharged to LTC .....	45
Appendix C <sub>3</sub> .....	48
Guidelines for the Discharge Link Meeting .....	49
Appendix C <sub>4</sub> .....	51
Therapy Provider Protocol: Clients Discharged to Community .....	52
Appendix C <sub>5</sub> .....	54
Therapy Provider Protocol: Clients Discharged to LTC .....	55
Appendix D .....	57
Discharge Link Brochure .....	58
Appendix E .....	59
'Tips and Tools' Information .....	60
Appendix F.....	61
Discharge Link Project Data Elements .....	62
Appendix G.....	65
Client Interview Consent and Guidelines.....	66

## List of Figures

Figure 1 – Map of Southeastern Ontario .....	6
Figure 2 – Summary of Community Therapy Enhancement .....	8
Figure 3 – Pre-Post Service Comparison .....	8
Figure 4 – Referral Information .....	13
Figure 5 – Intensity: LTC Visits . .....	14
Figure 6 – Referral Rate Comparison by Discipline Pre- and Post Service Implementation..	15
Figure 7 – Change in Referral Rate Pre- and Post Implementation.....	15
Figure 8 – Intensity: Pre-Post Visit Rates (Referrals from Rehab) .....	16
Figure 9 – Intensity: Pre-Post Visit Rates (Referrals from Acute) .....	16
Figure 10 – Decrease in Length of Stay .....	17
Figure 11 – FIM Change .....	18
Figure 12 – FIM Efficiency .....	18
Figure 13 – Percentage Readmission Rates .....	19
Figure 14 – Readmissions by Visit Number .....	19

## INTRODUCTION

### BACKGROUND

Stroke is the primary cause of adult disability and a leading cause of death in Canada. While over eighty-five percent of patients survive a stroke, many are left with severe and long-term disabilities<sup>1</sup>. Stroke rehabilitation is essential in maximizing function for these individuals thereby minimizing overall burden of stroke for the stroke survivor, caregiver and the health care system. Stroke costs the Canadian economy over \$3.6 billion a year in physician services, hospital costs, lost wages, and decreased productivity<sup>1</sup>. Inpatient stroke rehabilitation has been shown to be effective in reducing disability post stroke, reducing on-going care costs and improving quality of life for stroke survivors and, by extension, for their caregivers. Internationally, many inpatient facilities are now implementing early supported discharge (ESD), which focuses on accelerated discharge of stroke patients from hospital to community with provision for rehabilitation support in the home. Trials have demonstrated that ESD can improve functional outcomes as well as health-related quality of life while reducing hospital length of stay, long term dependency and institutionalization<sup>2</sup>.

The 2007 Stroke Rehabilitation Consensus Panel Report to the MOHLTC provided evidence based standards for stroke survivors residing in community and LTC settings.<sup>3</sup> In addition, Canadian Best Practice Recommendations for Stroke Care were first published in 2008, and are updated every two years. They include Recommendations for Rehabilitation and Community Re-integration including care transitions.<sup>4</sup> The Discharge Link Initiative investigates the tremendous costs to both the stroke survivor/family and to the health care system when these standards are not in place. Previous regional work has demonstrated that enhanced rehabilitation services in the community on discharge home after a new stroke can result in improved functional outcomes for stroke survivors and decreased health system utilization and costs<sup>5</sup>.

Needs assessments conducted by the Stroke Network of SEO<sup>6,7</sup> identified improved access to community-based rehabilitation as a priority for stroke survivors/families and health care providers across the South East region. Two previous regional stroke pilot projects led by the South East<sup>5</sup> and South West<sup>8</sup> regions demonstrated positive health outcomes resulting from

---

<sup>1</sup> Heart and Stroke Foundation of Canada

<sup>2</sup> Fisher, Rebecca J., et al, A Consensus on Stroke: Early Supported Discharge. *Stroke* 2011; 42; pp. 1392-1397.

<sup>3</sup> Consensus Panel on the Stroke Rehabilitation System “*Time is Function*”, Heart and Stroke Foundation of Ontario,  
April 2007

<sup>4</sup> Canadian Best Practice Recommendations for Stroke, 2010

<sup>5</sup> The Stroke Rehabilitation Pilot Project of Southeastern Ontario, Part 1 - Discharge Link Project Stroke Strategy of SEO, Nov 2004

<sup>6</sup> Stroke Rehabilitation Needs Assessment, Stroke Strategy of SEO, Oct 2001

<sup>7</sup> Building Capacity to Enhance Community Reintegration of People with Stroke, Stroke Strategy of SEO, Dec 2007

<sup>8</sup> Stroke Rehabilitation Pilot Project of Southwestern Ontario; A Regional Stroke Rehabilitation System: from Vision to Reality, Dec 2004

enhanced timely community-based stroke rehabilitation services on transition to home. In the South East, these included a faster and sustained change in function and half the number of hospital readmissions for those stroke survivors who received enhanced services.

The Discharge Link Initiative follows up on this past project work<sup>5</sup>, with a focus on improving health system efficiency, care and outcomes for stroke survivors in the community. Stroke survivors who were discharged from an acute care, rehabilitation or complex continuing care facility in the South East region were assessed while in hospital for eligibility for CCAC services. If deemed eligible, CCAC enhanced services were initiated. If new stroke survivors were identified in the community, they could also be assessed for service eligibility. See Appendix "A" for further details on the Pilot DLP.

### **Rationale: Evidence and Needs**

Canadian Best Practice Recommendations for Stroke, 2010<sup>4</sup> highlight the need for and benefits of intensive rehabilitation services post stroke. While improving patient flow is a priority across Ontario, publicly funded home-based CCAC rehabilitation has largely remained a consultation versus treatment model. Compounding the challenges, the limited access to community rehabilitation, especially in rural areas, can prolong hospital stays. Following on the 2004 project<sup>5</sup> that demonstrated improved functional outcomes and reduced health system costs, this project evaluates the health system implications of intensifying community-based stroke rehabilitation services on a timely basis upon transition to home or long term care for those unable to access outpatient care.

The 2007 Provincial Stroke Rehabilitation Consensus Panel Report<sup>3</sup> established a framework and key stroke rehabilitation standards for the purpose of provincial policy development and regional planning as well as evaluation and performance monitoring of stroke rehabilitation services. The Report identified the necessary tools and processes to support effective transitions to and from appropriate rehabilitation settings across the continuum. Twenty-one standards were identified reflecting six major themes relating to effective stroke rehabilitation.

With the dissemination of the Consensus Panel standards through local Rehab Forums across the SEO Region in 2007, the following local and regional rehabilitation needs and concerns were clearly identified:

- High Alternate Level of Care (ALC) rates and long ALC stays
- Large rural geography
- Limited and inequitable access to rehabilitation services, particularly with respect to outpatient and community rehabilitation

In 2007, the Stroke Network of Southeastern Ontario also engaged stroke survivors, caregivers, families and community partners to examine the significant challenges in implementing effective rehabilitation and community re-integration following a stroke<sup>7</sup>. This consultation process provided a forum to define priorities and support action for change. The priority directives reflected the client perspective and mirrored previously identified needs such as support for recovery and active engagement, access to rehabilitation and support to work through the emotions.

In 2007, the Ministry of Health and Long Term Care priorities and the SE LHIN Integrated Health Services Plan emphasized increasing issues relating to patient flow including limited access to emergency departments and high numbers of patients requiring an alternate level of care (ED-ALC). This provided the necessary traction to re-visit the original Discharge Link pilot, resulting in a successful proposal to the SE LHIN for enhanced community stroke rehabilitation services.

The provision of enhanced community-based rehabilitation services also aligns with the recent establishment of priority evidence-based recommendations for rehabilitation. In December, 2010, the Rehabilitation and Complex Continuing Care (CCC) Expert Panel was formed as a Subcommittee of the MOHLTC ED/ALC Expert Panel with the objective of re-thinking delivery of rehabilitation and complex care across the care continuum to establish a single, province-wide vision and conceptual framework for new service delivery models in rehabilitation and CCC. Objectives included providing guidance to the MOHLTC ED/ALC Expert on reduction of ALC length of stay and on policy and implementation frameworks. The following priority recommendations were delivered to the Ministry of Health and Long Term Care and Health Quality Ontario:

1. Earlier access to rehabilitation;
2. Intensification of rehabilitation services; and
3. Access to ambulatory and community rehabilitation.

Provision of enhanced community-based rehabilitation services as a standard of care in the SEO Region specifically aligns with these three priority recommendations.

## **OBJECTIVES**

The Discharge Link Initiative explores best practices for community-based stroke rehabilitation, supporting enhanced timeliness and intensity of community-based rehabilitation services provided to stroke survivors with new disabilities. It also supports improved communication of the plan of care on transition from hospital to home.

Objectives include the evaluation of community based stroke rehabilitation practices and health system improvements related to the provision of:

4. Enhanced timeliness and intensity of community-based rehabilitation therapy;
5. "Discharge link" meetings between hospital and community rehabilitation therapists to augment coordination of service and provider communication within and across teams;
6. Educational opportunities to build interprofessional capacity for stroke rehabilitation expertise in community settings.

The pilot phase of this work demonstrated that timely access to more intensive community-based rehabilitation services enabled stroke survivors to live in their own home setting and decreased emergency visits and hospital readmissions due to complications. Decreases in

length of stay and ALC days in both acute and rehabilitation hospital settings were observed with earlier discharges supported by enhanced timely community rehabilitation. Pilot findings also indicated that enhanced community-based services resulted in faster change in functional independence and improved functional ability at one year. Added benefits included greater satisfaction for stroke survivors and families on transition to home including reduced caregiver burden and 'burn out'. This initiative seeks to replicate the pilot observations.

This initiative supports in-home therapists to provide direct rehabilitation treatment as opposed to consultation services that have often been the service delivery format. Building community stroke expertise and enhancing interprofessional collaborative practice are important objectives. Communication links, whether in-person, by telephone or video-conferenced, bring together acute, inpatient and community rehabilitation providers in a meaningful dialogue regarding patient potential and the required plan for continuing care in the community. These links facilitate a seamless transition and optimize the progress attained while in hospital. The approach includes developing stroke expertise through interprofessional collaboration and access to best practice stroke educational resources such as incentive funding for collaborative "shared work experiences".

## **METHODS**

### **Population**

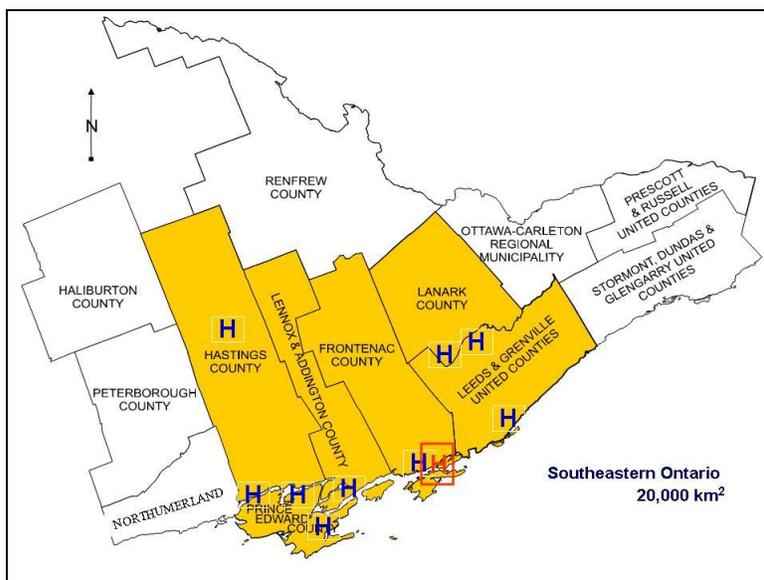
Southeastern Ontario (SEO) presents unique challenges for health care provision in the community. The SEO Region has a 45.9% rurally based population, one of the largest rural populations in Ontario (see Figure 1). Most acute care health services are located in the southern part of the region, requiring some patients to travel over two hours to obtain services. The region has a shortage of rehabilitation practitioners, especially in more remote areas. Recruitment and retention of qualified stroke rehabilitation experts is an ongoing challenge.

The participants included adults, sixteen (16) years of age or older, living in SEO who had sustained a recent stroke and were eligible for CCAC follow-up therapy at home, in a residential care facility or in a Long Term Care Home (LTC Home). Participant referrals were received from in-patient rehabilitation beds, in-patient acute beds, Emergency Department referrals or from the community, including transfers from other LHINs.

### **Consent**

Consent to participate in the enhanced community-based therapy was obtained by the SE-CCAC as part of their usual community service plan protocol.

Figure 1 - Map of Southeastern Ontario



## Intervention

Timely enhanced intensity of community-based rehabilitation is provided for new stroke survivors on transition from hospital to home, a residential setting or a Long Term Care Home. The enhanced rehabilitation services are provided by Occupational Therapists (OT), Physiotherapists (PT), Social Workers (SW) and Speech Language Pathologists (SLP). These services are 'front-end' loaded in the first eight weeks to maximize treatment effects. Prioritization by CCAC allows for a timely first therapy visit (i.e., high priority visit within five days). A Discharge Link meeting between community/LTC and hospital rehabilitation providers takes place to optimize communication between providers and establish client care plans while maximizing continuity of care. The intervention also includes access to best practice stroke educational resources including incentive funding for collaborative "shared work experiences" to develop interprofessional stroke expertise.

Firstly, hospital and CCAC Occupational Therapists (OTs) meet face-to-face for the Discharge Link Meeting prior to hospital discharge to discuss client goals, recovery and treatment program. Secondly, clients receive an enhanced intensity of rehabilitation service above and beyond that which he or she would usually receive from the CCAC providers. This enhanced community service is initiated in the week following discharge, with a minimal wait time of less than 5 days. The enhanced service is designed to allow the clients to receive the same amount of therapy as would be available in a Day Rehabilitation Hospital or ambulatory interprofessional team setting. Clients' individual service plans for the first four weeks following discharge are established by the CCAC Case Manager with input from the hospital therapy team. Subsequently, in the second month, the community therapy team refines the client therapy plan based on ongoing treatment goals.

## Enhanced Rehabilitation Intensity

In the first month after hospital discharge, the maximum amount of enhanced therapy is limited to two *extra* visits per week of PT and OT and one *extra* visit per week for SLP and SW (i.e., “extra” denoting visits beyond those typically provided under the existing service model). In the second month, half the levels of enhanced therapy may be provided, (i.e., up to one *extra* visit per week of OT and PT and one *extra* visit every second week of SLP and SW). The actual amount and combination of enhanced rehabilitation therapy provided is decided upon by the CCAC Case Manager in consultation with the rehabilitation team and varies according to client rehabilitation goals. Generally, enhanced service provision includes up to 12 additional visits of both physiotherapy and occupational therapy and 6 additional visits of speech language therapy and social work over a two-month period. See Figure 2 for a summary of service enhancement and Figure 3 for a pre-post service comparison.

As part of both the 2004 pilot project feedback and the 2007, SEO Community Reengagement Forums, stroke survivors and caregivers identified a distinct unmet need in the region relating to support to work through their emotions following stroke. Based on this identified need, and the critical importance of psychosocial well-being on therapeutic effects and client outcomes, Social Work services were included as part of the interprofessional community service provision enhancement.

Early on in implementation there was limited understanding across the Region of the role the Social Worker plays in stroke rehabilitation. Originally, there was a misperception that Social Work was for assistance with instrumental activities of daily living (IADLs), particularly where there were social and financial challenges, with a lack of awareness of the SW role in providing psychosocial support around grief, loss and life transitions. Facilitated meetings between the community and hospital teams were completed across the region to improve the understanding of the role of the SW and to promote referrals. Shared Work Experience opportunities with a community SW and hospital teams were also organized to promote a clearer understanding of the SW role. The Shared Work Experience is a SEO Stroke Network Professional Education opportunity supporting health care providers to spend clinical learning time with another health care professional working in stroke care. See Appendix 'B' for further details.

After the rollout of this education, referrals to SW increased and providers observed that the first eight weeks was not always the optimal timing for SW intervention. In response, protocols were amended to extend the timing of SW enhancement over a 12-week period, on an as-needed, case-by-case basis.

Enhanced services in LTC are similar, with the exception of PT services, which are provided through independent contracted providers, not CCAC providers. The initial OT assessment is completed in the Long Term Care home with recommendations made to the Case Manager regarding the first four weeks of treatment, followed by the therapy team working with the Case Manager to refine the care plan for the second four weeks, based on client need.

For additional information on intervention referral process and roles and responsibilities see Appendices C<sub>1</sub> through C<sub>5</sub>, which contain the training protocols for Case Managers and Therapy Providers, as well as the Guidelines for the Discharge Link Meeting.

**Figure 2: Summary of Community Therapy Enhancement**

Enhanced Service	Physio	OT	SLP	Social Work	Total extra Therapy Services
1st 4 wks	Up to 2 / wk X 4 wks	Up to 2 / wk X 4 wks	Up to 1 / wk X 4 wks	Up to 1 / wk X 4 wks	
2nd 4 wks	Up 1 / wk	Up 1 / wk	Up 1 / wk biweekly	Up 1 / wk biweekly	
Total additional visits	12	12	6	6	Total = 36

**Figure 3: Pre-Post Service Comparison**

Total Visit Comparison Pre-Implementation vs Enhanced Services		
Discipline	No Enhanced Services	With Enhanced Services
<b>PT</b>	Up to 1 every week for 8 weeks	Up to 3 every week for first 4 weeks Up to 2 every week for next 4 weeks
<b>OT</b>	Up to 1 every week for 8 weeks	Up to 3 every week for first 4 weeks Up to 2 every week for next 4 weeks
<b>SLP</b>	Up to 1 every week for first 4 weeks Up to 1 every 2 weeks for next 4 weeks	Up to 2 every week for first 4 weeks Up to 2 every 2 weeks for next 4 weeks
<b>Social Work</b>	As required	Up to 1 every week for first 4 weeks Up to 1 every 2 weeks for next 4 weeks Can be extended up to 12 weeks

## Roles and Responsibilities

### Case Managers

The hospital-based CCAC Case Manager initiates client identification and implements the enhanced service plan for the stroke client going home. The community CCAC Case Manager ensures continuing access and availability of enhanced services as appropriate and in accordance with the funded service guidelines of this initiative.

- The hospital based CCAC Case Managers (CMs) identify stroke patients in the hospital who are eligible for CCAC home care services on discharge. It is important that this

identification be done as early as possible to facilitate organizing timely discharge link meetings and community services.

- The CMs develop the service plan for the stroke survivor, identifying the type and duration of services to be initiated in the community, with the assistance of the hospital rehabilitation team. They consider the usual amount of services and incorporate the enhanced services as delineated in "Guidelines for Enhanced Therapy." This plan is in place for 2 weeks after discharge.
- The CMs identify the community OT who will be receiving the referral and communicate with that OT to facilitate the discharge link meeting with the Hospital OT.
- The hospital CMs share client information with the appropriate community CCAC case manager, based on the client's home location.
- The community CM then continues to ensure the appropriate services are available to the stroke survivors.

### **Hospital Healthcare Team**

As early in the patient's stay as possible, the team identifies potential participants and refers them to the hospital-based CM who will ascertain CCAC eligibility. Members of the hospital healthcare team recommend to the CM the type and frequency of therapy services required by eligible stroke survivors returning to the community, engage the hospital OT in the discharge link meeting with the community OT, and ensure appropriate information and documentation is made available to the community therapy team.

### **CCAC Rehabilitation Therapy Providers**

The therapy providers assess and treat the stroke survivors pursuant to the enhanced treatment guidelines and communicate with the CM as needed to update the plan of care. They will also assist with reinforcing rehabilitation principles with the stroke survivor, family and other members of the health care team. Therapy provider responsibilities include:

- Prior to discharge, upon receipt of a stroke client referral, the CCAC OT contacts the hospital based OT.
- Where possible, a discharge link meeting with the patient and caregivers/family present will be arranged between hospital and community OTs to discuss the rehabilitation progress to date and ongoing plan of community care. The OTs will discuss the current abilities, perceptual and cognitive status of the stroke patient and the goals for continuing treatment.
- Therapy providers will review and suggest videos from the Tips and Tools series or other educational material to be viewed by any caregivers, stroke survivor and family.
- Therapy providers will ensure they have adequate expertise to provide the appropriate therapy to the stroke survivors. Support in the form of Shared Work Experience / Field Day Training or consultation with experts can be accessed in response to identified learning needs.

## **Project Coordinators**

Implementation and maintenance of the initiative is sustained through the support, training and communication provided by Project Coordinators. The Stroke Network of SEO and the SE CCAC have assigned co-leads (Project Coordinators) to this initiative. The Project Coordinators are responsible for overseeing project management, refining processes and protocols, training and communication, data collection, analysis and interpretation, evaluation, report writing, and sharing of results at various professional education forums. A Project Lead specific to the Long Term Care component of the initiative has been assigned to support the LTC stakeholders. All stakeholders and participants receive the Stroke Network and CCAC Project Coordinators' contact information for ongoing information sharing, questions or concerns. The service Brochure outlining details of the initiative and the contact information has been provided to all stakeholders. See Appendix "D" for a sample of the Brochure.

The Project Coordinators ensure that communication and information sharing take place during regularly scheduled case manager and provider meetings. Contact with CCAC Client Service Managers and hospital and community case managers is maintained to respond to questions and provide support. The Project Coordinators participate as needed in regularly scheduled meetings of hospital healthcare teams and community rehabilitation provider agencies. Process and outcome evaluation findings are communicated at these meetings.

## **Discharge Link Meetings**

The Discharge Link Meeting occurs between a hospital rehabilitation therapist (usually, the OT) and the CCAC community OT prior to discharge. The purpose of the meeting is to:

- improve the communication across sectors of client goals, therapy plans and stroke treatment techniques through a face-to-face meeting;
- increase client and family involvement by being part of their care plan process and
- build stroke expertise and rehabilitation capacity through interprofessional collaboration.

The coordination of the Discharge Link meeting is initiated by the CCAC hospital CM who informs both the inpatient and community OTs of the imminent discharge of a stroke client to the community. The Discharge Link meeting is to take place prior to the client's discharge from the hospital setting, with coordination and planning for this meeting beginning as early as possible up to two weeks prior to discharge. Participation by the client and caregivers in this meeting is strongly encouraged. Ideally the meeting should occur within 72 hours of discharge.

Foci of the meeting include: obtaining client therapy history; reviewing goals attained and outstanding; rehabilitation treatment plan; client response to treatment and suggested approaches; client progress (functional abilities, current assessment results); goals for community and home; role of caregivers, family support; review of special needs in community and need for equipment and adaptations. The Discharge Link meeting is not intended to replace any other normally scheduled meetings such as the home assessment. The main objective of the meeting is to focus on client goals and ongoing therapy to facilitate stroke recovery in the community or LTC home environment.

## Building Expertise

The design of the Discharge Link Initiative includes an interprofessional collaborative approach to patient care. Embedded within this approach are opportunities for knowledge translation and development of interprofessional stroke expertise through cross-sectoral communication and collaboration. The Stroke Network of Southeastern Ontario provides access to best practice stroke educational resources, including *The Tips and Tools for Everyday Living: A Guide for Stroke Caregivers* manual and videos, as well as opportunity to participate in the Shared Work Experience and Field Training Stroke Educational Support Program. These opportunities are promoted to help to develop stroke expertise in the community throughout the project.

The *Tips and Tools* resource is intended to provide a basic understanding of changes in abilities faced by stroke survivor. It provides tips and techniques to make care-giving more effective and to assist the stroke survivor to function to the best of his or her ability. Topics include communication, psychological effects of stroke, mobility, activities of daily living, cognition and perception, behaviour, continence, as well as feeding and hydration.

The Shared Work Experience and Field Training Stroke Educational Support Program is a professional education initiative funded through the Stroke Network of SEO. It is designed to facilitate the development of individual or group stroke-specific knowledge, expertise and networking. It is open to any health care provider in the south east region who is working in stroke care. The Shared Work Experience is designed to bring together two or three healthcare providers in the workplace (hospital, rehab centre, community, LTC Home) to learn from one another about the assessment or treatment of stroke survivors. Field Training provides funding for an expert in stroke care to speak or instruct on a particular topic requested by a group of health care providers working in stroke care. See Appendix B and E for more information on how these educational supports are accessed.

## Evaluation

### Process Indicators

The following process indicators are tracked for efficacy of service delivery:

- Referral information (referral source by setting and geography; referral rates to various disciplines)
- Wait times to first community rehabilitation therapy visit
- Rehabilitation Service Intensity: referral and visit rates for those referred to the service
- Building expertise: uptake of stroke rehabilitation educational resources

Through the CCAC Client Health Related Information System (the CHRIS database), the SE CCAC provides ongoing service provision data outlining the dates and amount of therapy received by each participant. The data include a record of professional rehabilitation therapy visits (OT, PT, SLP and SW), wait times for services, distribution of services by sub-region and breakdown of service provision by referral source.

## Outcome Indicators and Data Sources

Having previously established the cost effectiveness and efficacy of the treatment relative to client functional outcomes in the pilot phase, the SE LHIN has focused on hospital utilization outcomes in this evaluation. The following outcome indicators relating to access to care and health system utilization inform the evaluation:

### Quantitative

- FIM Change and LOS Efficiency for those who accessed inpatient rehabilitation
- Length of Stay (acute, rehabilitation and alternate level of care)
- Readmission Rates

The Functional Independent Measure (FIM) is a standardized reliable and valid measure of functional status used in stroke care. The FIM assesses domains of self-care, transfers, locomotion, sphincter control, communication and cognition, assessing physical and cognitive function in the context of burden of care. This tool gauges the amount of assistance and resources a person with disability will require in their living environment. FIM Length of Stay Efficiency is a measure of change in functional status in relation length of stay ( $FIM\ LOS\ Efficiency = FIM\ Change / LOS$ ). In October 2002, as part of the Canadian Institute for Health Information's National Rehabilitation Reporting System (CIHI-NRS), the MOHLTC mandated use of the FIM to measure client function at admission and discharge from all Ontario rehabilitation inpatient centres.

CIHI-NRS data provides admission, discharge and FIM change scores for the CCAC clients that are discharged from inpatient rehabilitation settings. Changes in functional independence are observed in relation to changes in hospital length of stay.

Length of Stay, FIM LOS efficiency and readmission rates are evaluated as measures of access to care and efficiency of health system utilization. CIHI administrative data sets provide length of stay information from the acute care Discharge Abstract Database (CIHI-DAD) and from the inpatient rehabilitation (CIHI-NRS). CIHI-DAD is accessed to evaluate readmission rates to acute care. Appendix F contains a comprehensive summary of data elements and sources accessed.

### Qualitative

Qualitative evaluation includes a focus on uptake of best practice and stroke rehabilitation expertise; advancement of interprofessional collaboration in community and Long Term Care settings and coordination of services. Qualitative data is gathered through:

- Client interviews in relation to several domains of care
- Provider feedback and focus groups in relation to implementation

## Data Analysis

Process and outcome indicators are analyzed with the support of the SE LHIN data evaluation analyst. Data collection and analysis is ongoing. Process data is reviewed quarterly with data analysis and outcome evaluation completed at each fiscal year end. Intellihealth is used to access CIHI data sources including CIHI DAD, NACRS and NRS. These data elements are linked to CCAC CHRIS data. Indicators are assessed across two groupings: the stroke clients admitted to CCAC care over the year prior to the implementation of the enhanced therapy and the stroke clients admitted to the enhanced CCAC service each year post implementation. A comparative analysis is provided including trending of data pre and post implementation. Rigorous statistical analysis of significance is not provided as the comparator groups are not tightly controlled in this context of service provision.

Readmission rates are calculated using similar parameters to those used by the Ontario Stroke Network Evaluation office: patients are excluded from the readmission calculation if they are readmitted for elective reasons or if they are transferred within 24 hours.

## RESULTS:

### Process Indicators

**Figure 4: Referral Information**

<b>FISCAL</b>	<b>N - Participants</b>	<b>n - Community</b>	<b>n - LTC</b>
<b>Feb. 2009 – March 2010</b>	173	145	28
<b>April 2010 – March 2011</b>	182	153	29
<b>April 2011 – March 2012</b>	236	226	10
<b>TOTALS TO DATE</b>	<b>591</b>	<b>524</b>	<b>67</b>

As of March 31, 2012, 591 stroke clients have received enhanced community-based therapy under the Discharge Link initiative. The distribution of referrals by referral sources has been consistent from both acute (31%) and rehab (66%) inpatient settings and across the facilities within the SEO Region. Three (3%) percent of the referral source is unknown due to missing data elements. Subregional breakdown has remained consistent with 43% referred from Kingston, Frontenac, Lennox and Addington Counties, 34% from Hastings and Prince Edward Counties and 20% from Lanark, Leeds Grenville Counties. LTC Home Referrals are limited, however, communication and linkages with LTC Homes and contracted therapy providers continue to support the referral process and standard of service delivery.

Although data analysis is ongoing the following results reflect analysis of the data from the first two full fiscal years of enhanced CCAC rehabilitation service provision (FY2009-10 and FY2010-11).

## Wait Times

Prior to implementation of the current DL initiative, the average wait time to initiate a first CCAC community stroke rehabilitation therapy visit was 44 days. In the process of establishing the importance of timely intensive service, it was determined that CCAC would designate stroke clients as 'high' priority, requiring that the first visit occur within 5 days of receipt of referral. Since implementation of the current DL initiative, the average wait time has decreased from 44 days to 4.4 days.

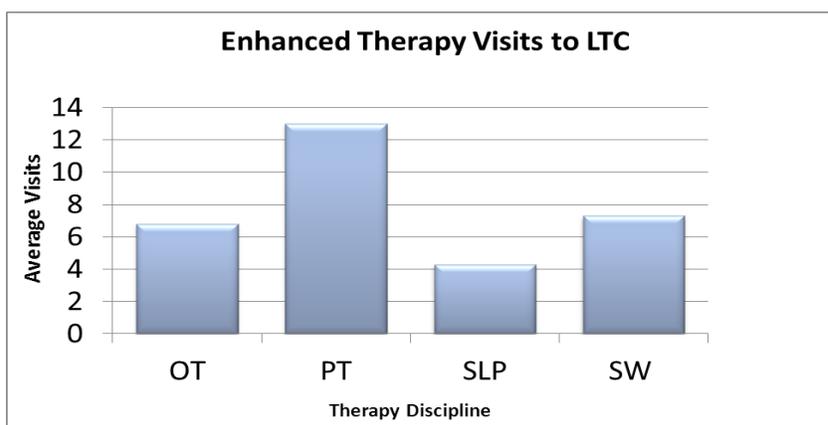
## Rehabilitation Service Intensity: Referral and Visit Rates

An increase in rehabilitation visit rates has been observed across the region since implementation.

### LTC visit rates

A total of 67 residents in LTC received enhanced stroke rehabilitation services from Feb 2009 to March 2012. Prior to implementation, there was very limited allied health rehabilitation service in LTC settings in SEO. Since implementation of the Discharge Link initiative, the average number of therapy visits in LTC has increased substantially. On average, clients who are referred to the respective services are receiving 6.8 OT therapy visits, 4.3 SLP therapy visits, 7.3 SW visits and 13 PT visits. It should be noted that the data source for OT, SW and SLP visits is obtained through SE CCAC CHRIS database, however, visit rates for PTs is manually tracked through linkages with the independent PT contracted service providers. Further, the content and delivery of PT visits may be variable, given the heterogeneity of independent service delivery models (e.g., use of PT assistants, group intervention, etc.). Notwithstanding these differences, LTC stroke survivor residents are now accessing intensified rehabilitation services, previously inaccessible to this cohort.

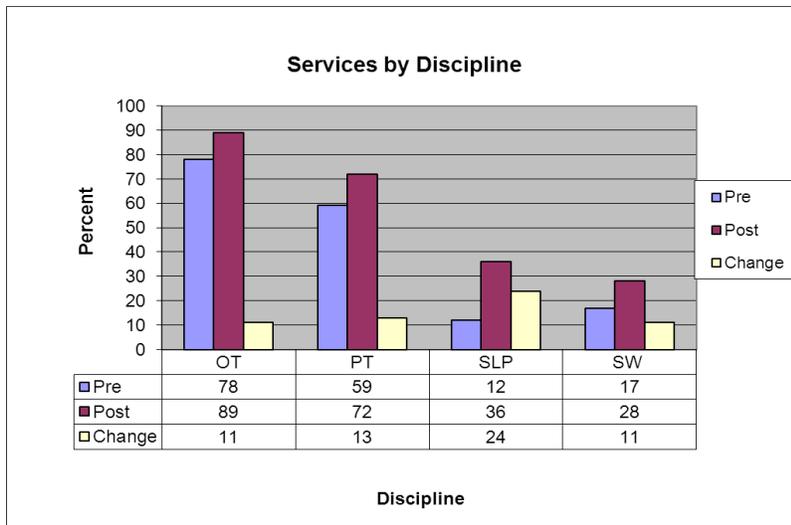
**Figure 5: Intensity of LTC Visits**



### Home-Based Community Referral Rates

For all participants referred to home-based therapy, referral rate and access to service by discipline has increased substantially following implementation of this initiative. Of those receiving enhanced community-based rehabilitation services, 89% have accessed OT services, 72% PT services, 36% SLP services and 28% SW services.

**Figure 6: Referral Rate Comparison by Discipline Pre and Post Service Implementation**



Overall, a similar trend in access to service was noted for discipline-specific visit numbers across settings (See Figure 6). Clients discharged from acute beds to community accessed a similar number of therapy visits per discipline. It was postulated that, given the less severe nature of the stroke sustained by clients discharged directly from acute (i.e., not requiring inpatient rehabilitation), they would not require as much

community based therapy. These findings suggest, conversely, that these clients do need substantial rehabilitation support in the community. Pre-implementation data suggest that these clients were not being referred, despite the need. Accordingly, the DL initiative through protocol development around referral process and adequate community rehabilitation service resourcing, has highlighted a previous gap in service that is now being filled.

**Figure 7: Change in Referral Rate Pre and Post Implementation**

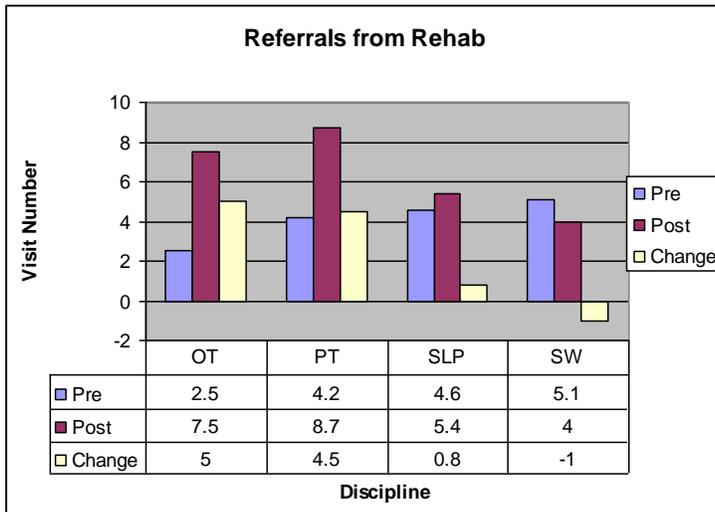


The associated change in referral rate (Figure 7) reflects an absolute increase in access to service of 11% for OT services; 13% for PT services; 24% for SLP services and 11% for SW services.

Similar to LTC, the average number of therapy visits has increased substantially for clients discharged home, regardless of referral source (rehab vs acute beds). For example OT visits

prior to implementation averaged 2.5 per client, and since enhanced services have been implemented, now average 7.5 (a raw change of 5 for OT). Similarly, increases have been noted for PT and SLP visit numbers for clients from both acute and rehab sources (See Figures 8 and 9 for pre-post and change in visit rates).

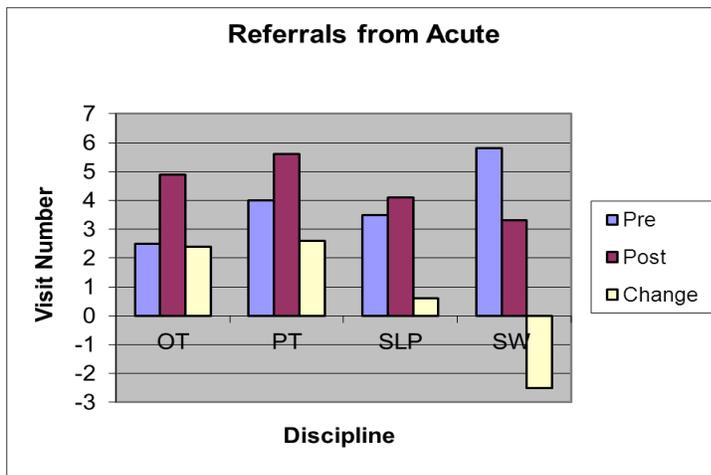
**Figure 8: Intensity: Pre-Post Visit Rates (Referrals from Rehab)**



For both of the referral groups (from rehab and acute beds), a decrease in average visit numbers has been observed for SW. Upon further analysis, pre-implementation data reflect a very small number of clients requiring intensive SW service. These high SW needs cases (range 17 – 23 visits) disproportionately affected the average SW visit rate pre-implementation, thereby masking change in service intensity attained. Overall, the frequency of referrals to SW and the access to this service has increased. Prior to the enhanced

initiative, the referral rate to SW was 17%, and currently, over 28% of clients are accessing SW services.

**Figure 9: Intensity: Pre-Post Visit Rates (Referrals from Acute)**



Although figures 8 and 9 show a small decrease in the number of visits per client, figures 6 and 7 confirm that a greater proportion of stroke clients are now receiving SW service.

### Building Expertise

Since implementation, over 30 Shared Work Day Experiences have been completed sharing stroke rehabilitation expertise between hospital and community therapists. The implementation of the service delivery model prescribed by the DL initiative has inherently promoted interprofessional collaboration, timely and effective communication and

rehabilitation capacity in the SEO Region. The collaborative Discharge Link Meetings occurring for rehab discharges build stroke expertise through collaborative care planning across sectors of the care continuum.

**Outcome Indicators**

The outcome data reported do not include LTC client data due to the limited sample size. Further, the provision of PT services varies in terms of PT versus PTA involvement, frequency and intensity of service. This heterogeneity of service under independent contract provision in LTC may negatively skew outcome indicators relative to the limited and diverse service under this cohort.

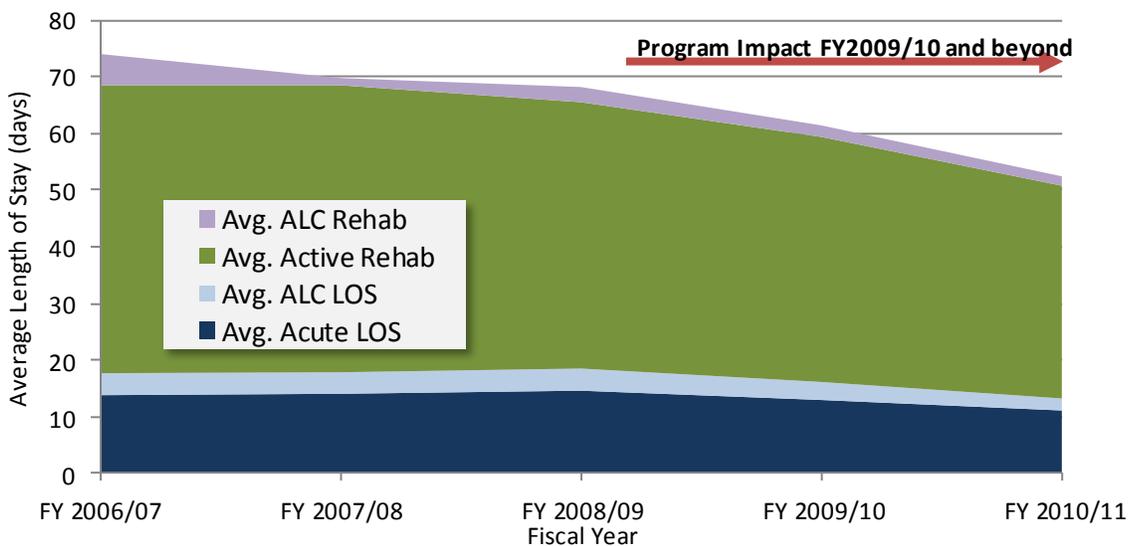
**Health Care Utilization**

Health system utilization is the primary focus of ongoing evaluation. By analyzing CCAC and hospital data pre and post enhanced service delivery, specific health system utilization patterns can be evaluated including acute, rehab and alternative level of care patient (ALC) length of stay, hospital readmissions and associated costs.

**Length of Stay**

The initiative tracked acute and rehabilitation hospital Lengths of Stay (LOS) by linking hospital and CCAC data. The mean active LOS for the group receiving inpatient rehabilitation following acute care has decreased from 68.7 days in fiscal 2008/09 (pre implementation) to 53 days in fiscal 2010/11, a 15.7 day decrease in LOS.

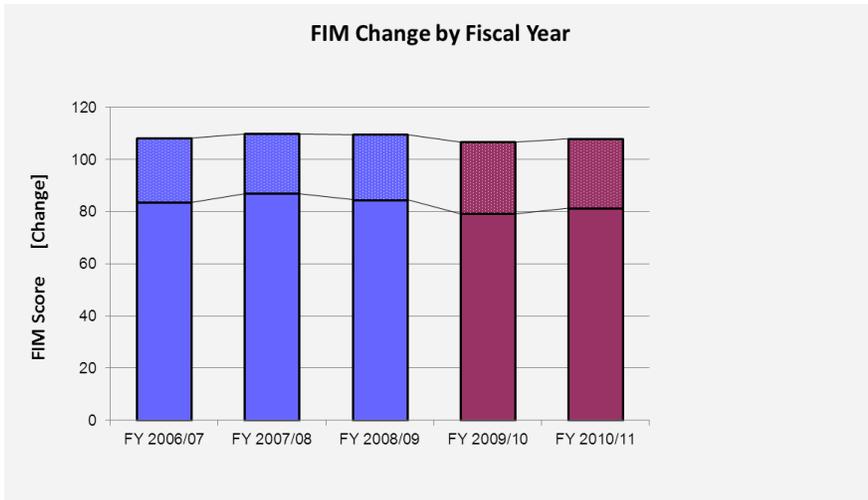
**Figure 10: Decrease in Length of Stay**



### FIM Change and FIM Efficiency

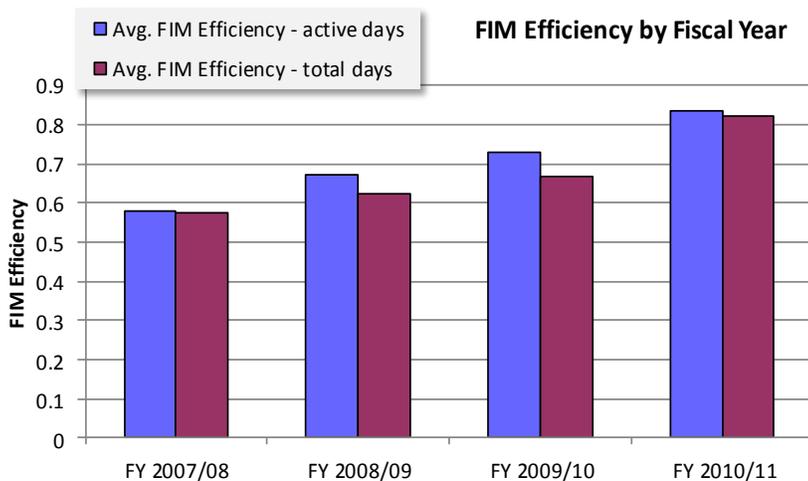
The significant length of stay reduction has not negatively impacted patient functional outcomes. FIM scores have remained stable notwithstanding a significantly reduced hospital stay. This results in substantially improved FIM LOS Efficiencies (See Figures 11 and 12).

**Figure 11: FIM Change**



(FY 2009/10 and 10/11 reflect data post implementation)

**Figure 12: FIM Efficiency**

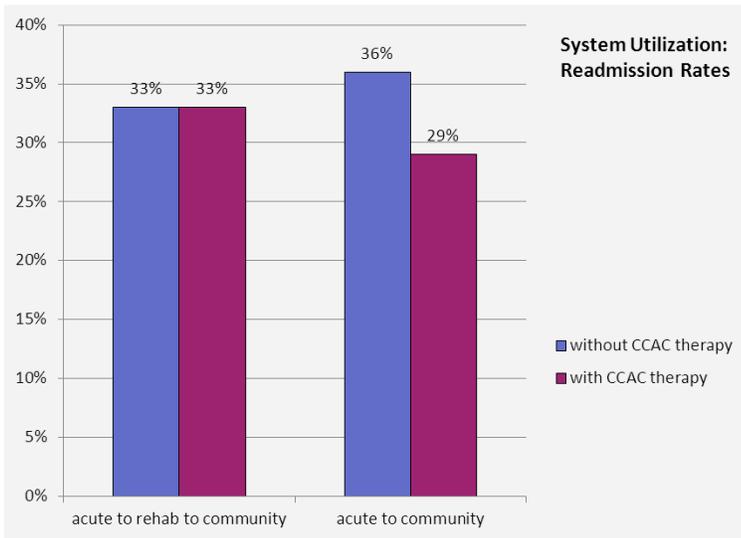


(FY 2009/10 and 10/11 reflect data post implementation)

### Readmission Rates

Figure 13 represents stroke readmission rates post service implementation (2009-2011) comparing stroke clients referred to CCAC enhanced services to those not referred, from two groupings (one group discharged directly from acute care to home and the other group discharged from acute care to inpatient rehabilitation to home). Those discharged directly home tend to be those with less disabling strokes. Lowest one-year readmission rates are

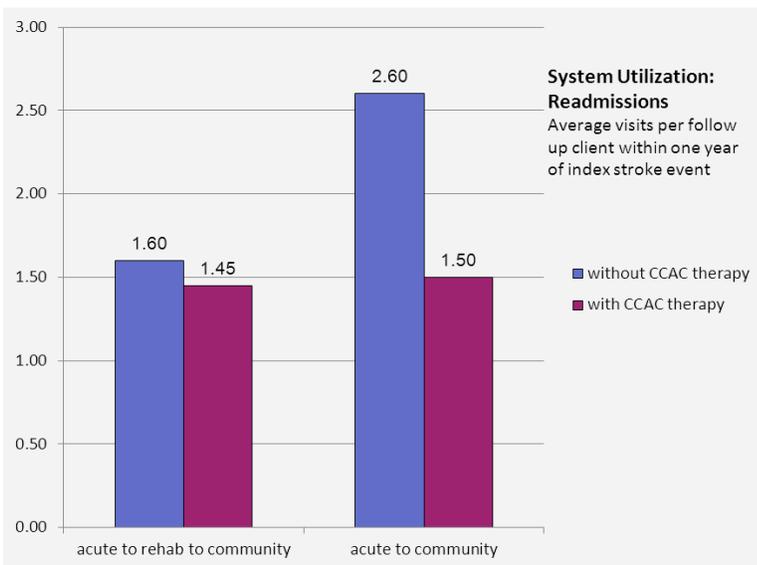
**Figure 13: Percentage Readmission Rates**



observed for clients receiving CCAC enhanced community rehabilitation services discharged directly from the acute inpatient setting. The highest readmission rate is for those discharged from acute care directly home with no rehabilitation service; the group that was neither referred to inpatient rehabilitation nor referred to the enhanced CCAC service. Given the multiple variables that influence readmission rates, a causal relationship between access to rehabilitation services and readmission rates cannot be

confirmed, however, there is indication of an inverse relationship between these two variables in this stroke population, with evidence of reduced readmission rates in those that receive some form of rehabilitation service. Readmission rates have been calculated on the basis of the proportion of stroke clients with at least one readmission within one year of the index stroke event. In accordance with the approach to readmission analysis used by provincial stroke evaluation reports, the readmission calculation excludes transfers within 24 hours and elective admissions.

**Figure 14: Readmissions by Visit Number**



In addition, figure 14 indicates that for those who are readmitted, the same trend is noted in the average number of readmission visits per readmitted client per year. Lower readmission visit numbers are observed for those clients receiving CCAC enhanced community rehabilitation services. Specifically, patients discharged directly from acute care who receive enhanced community-based therapy, experience an average of 1.5 readmission visits within one year

versus an average of 2.6 readmission visits for those who do not receive enhanced community therapy.

Top reasons for readmissions for this acute group not receiving rehabilitation services are similar to the provincial data in the Stroke Evaluation Report<sup>9</sup>, 2010-11:

1. Stroke/TIA
2. Congestive Heart Failure
3. COPD
4. Pneumonia
5. Fracture

## **Qualitative Findings**

### **Client Interviews**

Client interviews are conducted to obtain qualitative feedback around the experiences of the stroke survivor and caregivers/families with respect to in-home enhanced rehabilitation services. Clients are asked what they valued most in receiving the enhanced community-based therapy and what they would change about the service or experience. Some key themes have emerged in what was highlighted as most valuable.

- Motivation: "You tend to work a little bit better for somebody out of your home, a professional, more than you would for family or for yourself"
- SW was a support for depression and helped build links to community services and transportation: "SW set me up with the stroke support group, Queen's University... access bus... helpful in linking me to places"
- OT approach: "She had enough material to give a wide range of mental and physical exercises".
- PT approach: "He really valued the exercise training programs and shoulder rehab".
- SLP approach: "This therapy is so valuable for [stroke survivor] and our entire family."
- Reduced stress of being alone at home (for both stroke survivor and caregiver)
- "People coming into your home and timing / frequency of appointments worked out fine."

When clients are asked what they would change about their service and experience with enhanced community based rehabilitation, themes relating to intensity, duration, expertise, regression and client satisfaction have emerged. The following summarizes some of the key change themes and client quotes:

- Communication: "I would like to find out what the benefits of the exercises are in terms of how I've done and knowing what I should expect from it myself, you know."
- Client Satisfaction: "...Perhaps a way of voicing your satisfaction a lot earlier than this."
- Intensity: PT and OT in twice a week the first month, then cut back to once a week. "If it had been twice a week, that would have been better. Once a week and then six days to think about it is a long time."
- Duration: "Therapy ended after two months. Instead of two months, I would maybe extend it, while you're transitioning."

---

<sup>9</sup> Ontario Stroke Evaluation Report, 2010-11

- Variability in Service: “We had a little worse experience with the PTs. The first one was very good, ... spent the full hour doing exercises – the next PT spent 10 minutes and then left.
- Expertise: “At the end of that two month period, she [PT] was saying, you know, there's not much else she can teach me because of the limited amount of training that they get”.

Overall, a constant theme from stroke survivors around intensity and duration has been that, although they were receiving enhanced services, they would value even more. Issues noted above relative to variability of service and expertise are case-specific, but have provided a mechanism to support quality improvement through feedback to the provider agencies. The feedback has also been used to promote uptake of the Shared Work Experience to build stroke rehabilitation expertise.

Stroke survivor focus groups also highlighted the ongoing need for professional psychosocial care through stroke survivor and caregiver support groups and for functional communication groups for those with communication deficits. Functional communication groups have been requested by stroke survivor groups as a means of improving community access to SLP services for those with post stroke communication deficits. This may be a cost effective model to apply to the delivery of enhanced CCAC SLP services.

## **Provider Feedback**

As part of the qualitative analysis for ongoing process improvement, implementation issues are documented by the Project Coordinators and immediate efforts to improve service access and uptake are implemented. The following are key implementation concerns addressed to date:

### **1. Initial lack of service delivery intensity**

When first implemented, there was a lack of uptake of the funded enhanced services. The Project Coordinators explored reasons behind the lack of service referrals and intensity of service delivery in some areas and engaged in ongoing discussions with the CCAC and the three regional rehabilitation service provider groups to discuss ways to increase referrals:

- Reinforcing project rationale and stroke client rehabilitation needs, including pilot project results, encouraging therapists to make use of the project funding.
- Offering education to improve comfort level with stroke evaluation and treatment, promoting the funded Shared Work Experience and Field Training opportunities.
- Therapy managers reviewing other potential reasons for low visit numbers with staff and bringing them back to the project team.

Initially, concerns were raised by service providers around providing population-specific service enhancement and the potential for interpretation of prejudicial service delivery. This concern was alleviated through Project Coordinators communications with providers explaining the rationale for the funding directive of the SELHIN such as the high inpatient stroke ALC LOS, the evidence supporting stroke rehabilitation access and intensity and the positive evaluation of the pilot phase. Potential future benefits were also discussed such as ongoing evaluation for transfer and applicability to other service populations.

## **2. Assistive Devices Program (ADP) in LTC Homes**

Prior to the outset of the Project, CCAC had ceased funding for OT visits to LTC for adaptive device authorizations (e.g., wheelchairs, walkers). For this initiative only, it was decided that the CCAC would fund the OT to complete an ADP authorizing visit, as long as the equipment being authorized was needed for ongoing successful therapy intervention and the OT was in the LTC home to provide that treatment. Feedback from the OTs was positive as it assisted LTC residents to participate in the enhanced rehabilitation service.

## **3. Stroke expertise and varied service delivery contexts**

Early on, a discrepancy was observed between the hospital and community vision of what constitutes "appropriate" therapy visit intensity. There was limited understanding by hospital staff of the context, roles and services of community therapists. There was also a "usual practice" issue based on what each group was accustomed to providing in terms of usual resources, visits and lengths of stay. Focus groups of both hospital and community therapists were held to promote greater understanding of the application of rehabilitation best practice expertise in the varied contexts of hospital and community settings. Ongoing dialogue and sharing of stroke expertise across the two sectors continues to be promoted through meetings, communications and Shared Work Experiences.

Concerns continue to be expressed by community therapists around comfort levels treating stroke clients, particularly given the past consultative versus direct treatment model. Therapists have been encouraged to take advantage of the Stroke Network of SEO educational resources and opportunities including Shared Work and Field Training experiences, courses, workshops and symposiums.

## **4. Rural service delivery**

The issue of rural service delivery and associated access to equitable service is an ongoing concern with community-based rehabilitation services in the SEO region. This issue has required ongoing attention and dialogue amongst all stakeholders. Communications have included Project Coordinator meetings with hospital and community providers, telephone, and email correspondence highlighting:

- Hospital staff should not assume the service will not be available (i.e., do not extend hospital length of stay to provide inpatient rehabilitation service based on an assumption that rehabilitation services will not be available in a remote area such as North Hastings)
- Hospital staff should proceed with discharge planning on the basis of equitable enhanced service being available in any geographic area.
- If a message is received that this service will not be available, this is communicated to the Project Coordinators for follow-up and resolution on a case-by-case basis.
- Problem solving is encouraged amongst community providers, for example, consideration for sharing of services provided to a client living in a remote area amongst two therapists.
- Concerns related to provider contract obligations, particularly in rural areas, are addressed at CCAC Provider Meetings.

## **5. Rehab Day Services and Enhanced Community Services**

Variability of Day Rehab outpatient services in Southeastern Ontario has inhibited the development of standardized processes around integrating outpatient and community-based services. On a case-by-case basis, some accommodation has been made by CCAC and community hospitals to support a flexible service delivery model where barriers to community-based service delivery may exist. For example, in an extremely rural case, a collaborative approach to SLP supports was established using Day Rehab telemedicine services in conjunction with community-based PT and OT services.

## **6. Discharge Link Meetings**

There are ongoing concerns regarding the challenge of arranging the Discharge Link meeting. Generally, acute care settings discharging stroke clients to the community have difficulty organizing the Discharge Link meeting in time due to short lengths of stay. The meetings tend to be more successfully delivered in rehabilitation settings where there is more time to make arrangements. When they do occur, therapist and client feedback has been that they assist in transition planning.

CCAC data did not consistently reflect completion of Discharge Link meetings that therapists reported having completed. Investigation revealed that data entry coding errors in the CCAC CHRIS database were masking evidence of completion of the Discharge Link meeting. The coding issue has since been resolved.

## **7. Retirement Residences**

In the case of retirement residences, the question arose as to whether there was duplication of services in referring PT through CCAC if the retirement home had PT services. It was confirmed that the in-house retirement home PT services are provided by PTs billing through OHIP and are generally delivered in the form of group exercise classes. These group services were not deemed to be appropriate for meeting the individual recovery needs of a recent stroke survivor. Ongoing communication with the CCAC PT providers confirms and reinforces the need for CCAC funded enhanced PT services based on an individualized assessment and care plan for the stroke survivor. Communication stipulates that this is not a duplication of PT service provision for new stroke survivors discharged to residential settings.

## **8. LTC Homes**

A large variation in LTC PT service level and quality has been noted within the Region. The amount of onsite services vary greatly per client and there are large differences in stroke assessment and treatment expertise. Documentation relating to Best Practice for Stroke Rehabilitation as well as project overview documentation was sent to all LTC PTs at the outset of the initiative. A high turnover rate among LTC PT providers renders communication challenging.

In LTC, a limited understanding of the roles of therapy providers has been observed with a potential for under-referrals for therapy services for LTC residents. LTC collaborative education events across the region have provided sessions focused on the philosophy of rehabilitation and the role of various professionals within the care team. In response to the low referral rates from LTC, a mechanism has been embedded into practice protocols whereby the hospital Discharge Coordinators notify the Stroke Network Community and LTC Coordinator of any

eligible stroke referral to LTC. This linkage has assisted in ensuring follow-up and coordination of services in the LTC setting.

### Cost Analysis

It is estimated that based on reduced length of stay alone, cost savings could be observed in the range of **\$1.3M** annually. This estimate is based LOS cost savings in relation to CCAC budgeted expenditures for the most intensive additional rehabilitation service levels, for both LTC and community clients over a two year period. This more intensive service delivery level is based on the actual services delivered to those who required the most service in the first year of the Discharge Link initiative. Not all patients require this intensive service so the cost analysis will be a conservative estimate of direct savings. Furthermore, the savings do not take into account the long term benefits of recovery and increased independence experienced by stroke survivors who receive enhanced therapy services.

The acute and rehabilitation per diem rates are derived from The Impact of Moving to Stroke Rehabilitation Best-Practices in Ontario: Final Report, 2012 (acute \$591; rehab \$603)<sup>[1]</sup>, wherein the Ontario Case Costing Initiative Costing Analysis Tool was used to estimate the acute per diem cost, and the rehabilitation per diem was based on inflation adjusted Ontario rates to 2010.

Service Enhancement Costs X 2 years:

LTC n = 57 X \$1,569.61 total community cost (excludes PT)	=	\$ 89,467.77
Community n = 298 X \$2,097.61 total community cost	=	<u>\$ 625,087.78</u>
Total Community Costs:		<b>\$ 714,555.55</b>

Average Length of Stay (Cost Savings) X 2 years:

5.3 acute days X \$591 per diem X 355 patients	=	\$ 1,111,966.50
10.4 rehab days X \$603 per diem X 355 patients	=	<u>\$ 2,226,276.00</u>
		\$ 3,338,242.50

**Net Cost Savings** (over two fiscal years) **\$ 2,623,686.95**

Resulting in a potential **savings annually** of: **\$ 1,311,843.48**

### Summary

In summary, the current DL initiative has revealed a number of interesting and valuable findings that warrant consideration for the development and ongoing support of innovative outpatient and community rehabilitation programs:

---

<sup>[1]</sup> Meyer M, O'Callaghan C, Kelloway L, Hall R, Teasell R, Meyer S, Allen L, Leci E, in collaboration with Ontario's Stroke Reference Group. The Impact of Moving to Stroke Rehabilitation Best-Practices in Ontario: Final Report. 2012 Available: <http://ontariostrokenetwork.ca>

- Community rehabilitation therapy service intensity has increased and is being accessed far sooner under the enhanced initiative than prior to DL initiation.
- The wait time for initiation of community based rehabilitation therapy upon hospital discharge for a new stroke survivor has decreased from an average of 44 to 4.4 days.
- Therapy by discipline is accessed more frequently, with a significant referral rate increase noted in all disciplines (SLP, PT, OT and SW).
- A 15.7 day decrease in hospital length of stay has been observed for stroke clients following initiation of enhanced community-based therapy.
- One year readmission rates to hospital have been observed to be lower for clients discharged directly from acute care to home who receive CCAC enhanced community rehabilitation services.
- For those readmitted, the number of readmissions per client has been lower for those who received enhanced community rehabilitation services.
- Clients who received some form of rehabilitation service on discharge from acute care (either inpatient rehabilitation or enhanced community based rehabilitation) have had lower readmission rates at one year than those who were discharged without rehabilitation.
- Further evaluation of ED visits and of the reasons for readmissions and ED visits is warranted.
- Development of stroke expertise and rehabilitation capacity has been achieved through interprofessional cross-sectoral collaboration and through shared work day opportunities.
- Improved communication has been achieved across sectors through the Discharge Link meetings and through the embedded practices of patient transition within the enhanced initiative.

## DISCUSSION

### **Building Capacity to Deliver Enhanced Community-based Stroke Rehabilitation Service**

The DC link initiative has demonstrated that it is possible to deliver an enhanced intensity of rehabilitation therapy in community settings through CCAC providers. This has been a successful approach to delivery of services to dispersed clients living in rural areas of SEO. The Southwest region also demonstrated that rehabilitation capacity could be built through expert rehabilitation hospital outreach teams<sup>8</sup>. A comparison of these two methods of community service delivery would be of interest. The density/critical mass of stroke clients by geography may be a determining factor in determining which service delivery model is most cost effective. The DC link initiative has demonstrated that, for regions with dispersed rural populations, delivery of rehabilitation services through CCAC providers is a feasible and effective adjunct to the provision of outpatient day rehabilitation services providing processes are put in place to assist community teams to build stroke rehabilitation expertise. The enhanced CCAC service is not a substitute for interprofessional outpatient day rehabilitation services, but can expand access to services for those who are unable to access outpatient programs.

## **Rehabilitation Day Hospital and Community Rehabilitation Service**

Clients who had access to day hospital stroke rehabilitation services generally did not participate in the community-based enhancement. Exceptions to this were examples of a shared service delivery model. For example, where social work services were unavailable in the rehabilitation day hospital setting, access to those services was provided through CCAC, with other discipline services provided through the rehab day hospital setting. There is significant inequity across the SEO region in the access to ambulatory day hospital rehabilitation services, due to the rural geography and a complete lack of day hospital services in some parts of the region. A coordinated team approach is necessary in the rehabilitation of stroke survivors due to the complex range of disabilities experienced. For those who live too far away from the day hospital or are too disabled to travel, the timely provision of coordinated team community rehabilitation services has been demonstrated to make a difference to patient flow and outcomes. Having both day rehabilitation services and community based rehab services available would be the most cost effective scenario to improve patient flow from expensive inpatient services. Such innovative models of community service delivery need continued investigation.

## **Wait Times**

The DL results also underline the importance of the timeliness of enhanced rehabilitation services following discharge. Timely and appropriate levels of rehabilitation have been shown to be critical to inpatient rehabilitation outcomes. This evaluation indicates that this is also true in the community setting. Clients receiving enhanced services during this evaluation waited on average only 4.4 days for service, whereas wait times averaged 44 days prior to the enhanced initiative implementation and associated CCAC prioritization. Previously, this long CCAC waiting period had been an unfortunate long-standing reality for recently discharged stroke clients in SEO requiring rehabilitation. The rehabilitation needs assessment performed in 2001<sup>6</sup> in SEO revealed that, in some areas, inpatient healthcare providers had stopped referring stroke clients to community care because the wait time for service was so long that the service was unreliable for transition management. At that time, stroke was not placed in high priority for initiation of community rehabilitation services. The Discharge Link Initiative demonstrates that wait times can be reduced through CCAC process changes, including identifying all new stroke referrals as a high priority to receive a first therapy visit within five days of referral. When this is implemented and achieved, positive outcomes are observed in patient flow from hospital and in client function and satisfaction.

## **Health System Utilization and Patient Flow**

The DL results reveal that providing a stroke client with timely and enhanced professional rehabilitation therapy services in the community on transition from the rehabilitation hospital setting are associated with improved patient flow and decreased utilization of other parts of the health care system. Given that this is not a randomized controlled trial, it is impossible to assume a causal relationship between the enhanced therapy and hospital utilization indicators. However, it is important to note the covariance of increased therapy provision in relation to decreased health system utilization such as LOS over the specific two year period of

the intervention across SEO, specific to this stroke population, and in the context of a relatively stable LOS observed over the two years prior to the intervention.

### **Length of Stay**

Length of hospital stay in both acute care and inpatient rehabilitation settings was substantially reduced for clients receiving enhanced community-based therapy. With more intensive community rehabilitation services available for stroke clients, inpatient acute and rehabilitation teams are more likely to discharge these patients sooner, knowing the service would be available at home. This in turn promotes faster flow to rehabilitation from acute care. Prior to implementation of the enhanced rehabilitation initiative, if a patient undergoing stroke rehabilitation was to be discharged home to a rural part of SEO, inpatient teams tended to delay discharge, knowing that limited stroke rehabilitation services were available in more remote community settings. Some concerns continue to be expressed by hospital healthcare providers relative to perceptions regarding the level of neurological expertise of community-based therapists. Efforts to build capacity through education opportunities continue to be an ongoing focus.

### **Client Function**

The reduced hospital LOS observed in association with enhanced community rehabilitation service has not been observed to negatively impact functional outcomes but has improved LOS efficiency. In addition to reduced health system utilization and associated cost savings, it should be noted that the improved and sustained functional recovery of clients receiving enhanced community-based rehabilitation services (as demonstrated in the 2002-04 Pilot) may translate into decreased service costs over time. With improved functional recovery, the burden of care and associated resources are reduced. Providing an adequate intensity of rehabilitation services at the right time for recovering stroke survivors transitioning into the community is critical to ongoing independence in the home, improved quality of life and reduced long term burden of care. These outcomes align well with the MOHLTC objectives highlighted in the Aging at Home initiatives and the Seniors Strategy.

### **Readmission Rates**

Lower readmission rates were observed for clients receiving CCAC enhanced community rehab services, who were discharged directly from inpatient acute settings. In contrast, the highest readmission rates were seen for those who received no inpatient or CCAC rehabilitation follow-up. While a causal relationship between the enhanced therapy and the readmission rate cannot be confirmed given that multiple concurrent variables will influence this outcome, the inverse relationship between increased rehabilitation and decreased readmission rates is worthy of note.

While decreased hospital readmissions were expected based on previous pilot findings, these repeated findings support the impact enhanced community-based rehabilitation services have on successful and enduring transition home, maximizing quality of life and sustaining functional abilities and independence. Timely access to enhanced community-based rehabilitation services is associated with a decrease in hospital readmissions arising from

complications following community reintegration. Examples of possible reasons for the reduced complications could include the following: physiotherapists and occupational therapists address balance and falls prevention; speech and language pathologists provide assessment and management of swallowing disorders, preventing pneumonia; social workers provide the psychosocial support to both stroke clients and their caregivers that can help to prevent and manage anxiety and depression. The reduced readmission rate is an indication that rehabilitation service enables stroke survivors to live in their own home setting, decreasing the need for care in a LTC home.

### **Cross-Sectoral Collaboration, Transition Management and Rehabilitation Expertise**

The DL initiative provided increased opportunity for providers to communicate and collaborate on issues of stroke client care through the Discharge Link meeting held between inpatient and community therapists prior to patient discharge. The DL meeting was very well received amongst the inpatient rehabilitation and community providers. Unfortunately, acute care providers found this requirement almost unachievable for those patients being discharged directly home from acute care after a short length of stay as the admission period offered only a very time-limited opportunity to arrange such a meeting. Further investigation is needed to develop a model that might be more feasible for linking acute care and community therapists. For example a follow up call arranged post discharge might be more realistic.

Throughout this initiative both hospital teams and community providers have commented on the value of being involved, including the process training sessions and focus groups. Cross-sectoral collaboration supports communication, client transition and care planning. Evaluation of shared work day learning opportunities has reflected the value and ongoing importance of building stroke rehabilitation capacity through shared expertise.

### **Sustainability and Cost Analysis**

The findings of the current DL initiative provide new and additional information related to best practice in the provision of community based stroke rehabilitation for recovering stroke survivors. The hospital utilization outcomes and inferred cost savings highlight the sustainability of adequately resourcing community stroke rehabilitation services. The provision of timely enhanced community rehabilitation service has been shown to be sustainable in that it is feasible, cost-effective, improves client function over the long term and decreases health system utilization. The initiative has continued to demonstrate that resourced rehabilitation and transition planning improves long term recovery from stroke disability. The relatively low cost of enhanced therapy compared to that associated with longer lengths of stay and greater readmissions supports the importance of sustaining adequate resources for community based rehabilitation care.

The initial project was funded in its second year by the LHIN as part of the *ED-ALC Urgent Priority Fund* from the MOHLTC and in the first year, through *Aging at Home Funds*. In April, 2011, the LHIN, recognizing the critical role this enhanced service plays both in improving stroke survivors' functional outcomes and in improving health system utilization, committed to ongoing funding for this regional standard of service in support of best practice in stroke care.

As part of its base budget, the CCAC now receives ongoing targeted funds to support this new standard of care. Successful implementation and sustainability continue to be dependent on the effective collaboration and joint accountability of all project partners. Joint evaluation with the SE LHIN, the Stroke Network of SEO and the SE CCAC strengthens ownership, accountability and sustainability. Ongoing evaluation is required to monitor process, sustain momentum and to ensure that positive outcomes continue to be realized.

Sustainability requires ongoing education, training and embedded practices. Processes for ongoing Case Manager training/communication have now been embedded into standard protocols and data collection systems (i.e., embedded into the CHRIS CCAC database). Processes have been put in place to sustain the education initiatives that will continue to build stroke rehabilitation expertise amongst CCAC case managers and community therapy providers. Also supporting sustainability is the collaborative joint leadership of the SE CCAC with the Stroke Network of SEO with ongoing "ownership" of the service by the SE CCAC and its provider agencies.

A regional triage system for rehabilitation services for recovering stroke survivors would maximize the sustained provision of appropriate therapy services at adequate levels to meet client needs. Consistent regional planning mechanisms for client selection, triage, and priority setting for both hospital and community rehabilitation service delivery models will maximize service delivery to the right stroke client at the right time. Regional planning mechanisms will be sustainable only if an infrastructure is in place to promote this. The SE LHIN Restorative Care Clinical Services Roadmap is highlighted as a priority for implementation in the SE LHIN IHSP3. Attention to the rehabilitation plan outlined in this roadmap would promote more efficient use of inpatient beds and ongoing sustainability of community based rehabilitation services. There continue to be areas of service delivery that are clearly inequitable and negatively affect patient flow across the region. Day Rehabilitation Services as an adjunct to CCAC service, provided in a regional and equitable manner, would greatly enhance the sustainability and ongoing feasibility of home-based rehabilitation service provision.

The DL service, its preceding pilot, and the work of the Stroke Network of Southeastern Ontario in other parts of the continuum of care, have successfully demonstrated the sustained benefits of working regionally on the planning and delivery of stroke care across the continuum. It is important to note that under the Discharge Link initiative, ongoing referrals continue, and as of March 31, 2013, over 800 stroke survivors have benefitted from enhanced community based rehabilitation services in Southeastern Ontario.

### **Transferability**

In order to maximize the impact of client outcomes and reduced hospital utilization, application of this model of service delivery may be applied more broadly to other populations. For example, the findings of the Discharge Link Initiative may be transferable to those who:

- live at home and cannot access outpatient therapy, anywhere in Ontario whether it is in the rural or urban environment;
- have a new disability and require rehabilitation services;
- suffer from other complex neurological conditions;

- are unable to access ambulatory outpatient services;
- have the potential for further recovery.

## RECOMMENDATIONS

Based on the results of the Discharge Link initiative and its preceding Pilot Project, the following recommendations are made:

1. Provide intensive home-based professional rehabilitation therapy to meet the community rehabilitation needs of stroke clients being discharged from inpatient care. The frequency of referrals and visit intensity required to positively impact SEO outcomes was up to double that usually provided. This more intensive CCAC service provision is particularly important when these clients are unable to access ambulatory services in the community.
2. Assign a “high priority” rating to new CCAC stroke clients to ensure a therapy visit occurs within five days of referral. A wait time of less than 5 days to community rehabilitation service is recommended to positively impact stroke client functional recovery and health system costs. Embedding the high priority rating into expected practice protocols is critical to ensuring that timely services are provided.
3. Allow flexibility of rehabilitation service plans to assist providers to meet the varied rehabilitation needs of recovering stroke clients in the community. Generally, providing more intensive service earlier in the recovery period is more cost effective.
4. Build formal processes to support an interprofessional collaborative approach to client care within and across care settings. Cross-sectoral collaboration requires establishing and maintaining a formal process to support inter-provider communication and coordination of care between the hospital acute and rehabilitation settings, community-based care and long term care.
5. Interprofessional collaboration requires specific attention in LTC, particularly in light of both CCAC and independent contract provision and the challenges with consistency of contracted Physiotherapy services in LTC.
6. Provide stroke rehabilitation education to professional staff of provider agencies and to case managers. The personal support worker also requires education regarding rehabilitation principles and functional activities in the provision of stroke care in the home. Consider designating a CCAC staff member to focus on stroke and to serve as an expert resource to other staff. Build rehabilitation capacity in the community therapy context by providing education opportunities. A recommended approach is to build incentives for therapists with neurological expertise to share work experiences with community therapists for hands-on learning opportunities in the context of client-specific home visits. Consideration could be given to improving the uptake of education and Shared Work Experience opportunities by embedding education requirements into provider contracts. It is especially important to build expertise in LTC, as in this setting, limited opportunity exists for direct stroke rehabilitation or expertise development.

Consideration could be given to improving the uptake of education and Shared Work Experience opportunities by embedding education requirements into provider contracts.

7. Investigate strategies to recruit and retain professional rehabilitation services to prevent shortages and to promote a stable provider workforce. Frequent change in service provider agencies leads to difficulty with human resource recruitment and stability, impacting on continuity of care.
8. Given the highly dispersed rural population and geography of SEO, ongoing planning is required relating to the feasibility of rural service delivery. Continued collaborative problem solving amongst all stakeholders is warranted in establishing innovative and flexible service delivery models in remote areas. Consideration should be given to shared service delivery models between hospital rehabilitation day services and CCAC rehabilitation providers. The including increased use of videoconferencing through the Ontario Telehealth Network might form part of these innovative solutions. Caseload sharing amongst therapists for remote clients has also been successful in maintaining recommended service frequency and intensity.
9. Explore the role of the physiotherapy assistants, occupational therapy assistants and communication disorder assistants in the community rehabilitation of stroke survivors. Provide stroke rehabilitation training to these support personnel.
10. Support stroke clients and their caregivers by providing sustained funding for local stroke survivor and caregiver support groups. Support caregivers with respite opportunities and education about stroke. Link clients with the services provided through community support agencies.
11. Improve access to health system data for cross continuum care evaluation. This includes greater ease of linking CCAC and LTC data to administrative hospital utilization data such as LOS, ED visits and readmissions. Currently there is a complete lack of administrative data for outpatient or day rehab follow-up and an absence of integrated regional data sets.
12. Consider incorporating group therapy (e.g., professionally led Functional Communication Groups utilizing Speech Language Pathologist and Communication Disorders Assistants and professional led Psychosocial Support Groups, utilizing Social Worker expertise) into the model of service delivery in order to maximize functional independence and positive integration, while maximizing professional resource utilization.

## **CONCLUSION**

The provision of timely intensive stroke rehabilitation services upon transition to the community has a positive impact on health system utilization and stroke survivor outcomes. Developing and sustaining the Discharge Link Service has been an innovative and cost effective community-based rehabilitation program that has been associated with improved client function, decreased length of hospital stay and reduced hospital readmission rates. This work

has demonstrated that further investigation of innovative models of outpatient and community rehabilitation service and community supports is warranted in order to improve access to quality care, improve patient outcomes, enable efficient patient flow and reduce health system costs.

# APPENDIX A

Discharge Link Initiative

2002-2004  
Pilot Study Information

## Background Information

Incorporating the results of a 2001 Southeastern Ontario (SEO) regional rehabilitation needs assessment and recognizing the MOHLTC recommendations, the Regional Stroke Steering Committee of SEO developed a proposal entitled “*The Southeastern Ontario Stroke Rehabilitation Pilot Project*” and submitted it to the MOHLTC in November of 2001. Approval was received in May 2002 to conduct the two-year study.

From 2002 to 2004, the Stroke Rehabilitation Pilot Project of SEO investigated ways to improve the rehabilitation system for stroke survivors, their families and for healthcare providers. This Discharge Link Pilot Project had three key components. It provided timely and enhanced community professional rehabilitation services (PT, OT and SLP) and enhanced PSW services following inpatient rehabilitation for individuals with new disability subsequent to a stroke; it afforded a client-centred method of communicating client information across the continuum of care to clients, caregivers and health care providers via a Stroke Care Diary; and it measured the impact of services of stroke survivors' functional independence, through evaluation of function and burden of care post stroke utilizing the Functional Independence Measure (FIM). Findings of the Discharge Link (DL) Pilot Project 2002-04, included:

- Significantly greater improvement in function in the stroke client group that receives timely enhanced professional community-based therapy in the first two months after discharge from a rehabilitation unit. This improvement is maintained for a year, the length of the study. The intensity and timing of professional community rehabilitation therapy is a critical factor in promoting stroke client recovery.
- Shorter waiting time for community service is associated with faster functional recovery in the first 2 months and this recovery is maintained for the first year following discharge from inpatient rehabilitation.
- Timely, enhanced professional community-based therapy in the first 2 months after discharge from a rehabilitation unit reduces costs to the healthcare system. There is a decreased burden of care associated with the improved functional recovery in the enhanced therapy group. The group receiving the enhanced community service had a shortened inpatient rehabilitation stay. Clients who received enhanced therapy in the community were 50% less likely to be readmitted to hospital and their readmission stay was shorter than those receiving usual care.
- Models of community care in SEO differ.
- Providers experience a higher level of satisfaction with their ability to provide service when resourced with time to collaborate with colleagues across the care continuum.
- Providers are frustrated with system barriers that make it difficult to provide a coordinated team approach to care in the community and across the care continuum.
- There are constant critical shortages of rehabilitation therapists in community and inpatient settings. Issues of retention and recruitment are of significant concern in SEO.
- Caregivers of stroke survivors are overwhelmed with the burden of care.
- The Stroke Diary is a useful aide to communication during the recovery process for stroke clients and their families.
- Healthcare providers unanimously support the usefulness of the Diary, but they are not consistently able to make use of this aide due to time constraints.
-

- The Alpha-FIM™ is a feasible means of collecting standard reliable data on the functional status of stroke survivors in the acute setting.

Significant improvement in both treatment efficiency and efficacy relating to client functional outcomes, as well as sustained functional ability one year following intervention, were both previously demonstrated in the 2002-04 DL Pilot. Significant cost savings were noted relative to that pilot. A 17% net cost savings was associated with the decreased readmissions alone.

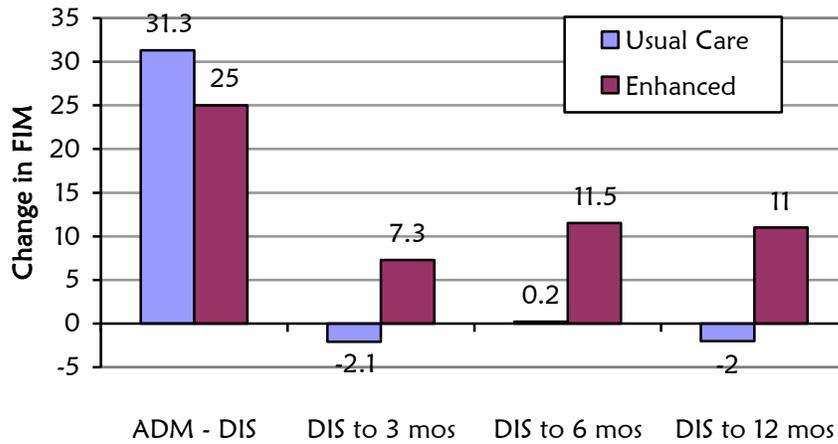
**Cost Comparison – Pilot 2002-04**



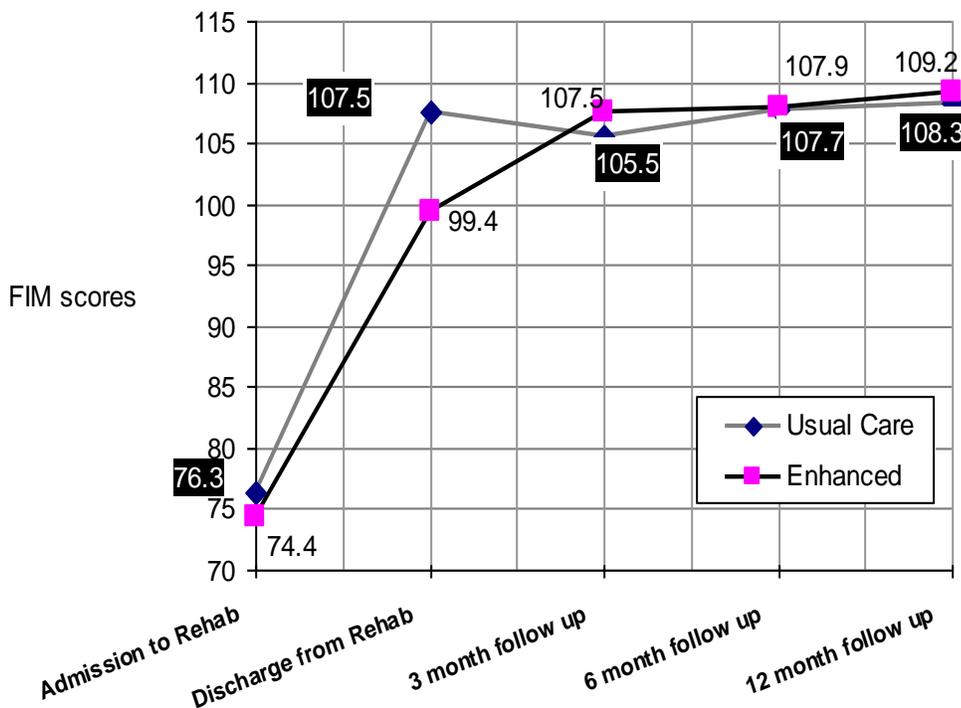
**Pilot 2002-04: Change in Function**

Client functional outcomes were not measured under the current initiative, as advancement in functional independence was previously demonstrated in the 2002-04 DL Pilot. At that time, it was established that between discharge and the three-month follow up, there was a significant difference in the functional recovery between the 'usual care' and the 'enhanced' group. This increased change occurred specifically in the time period in which the project provided the intervention of the enhanced therapy services. The usual care group actually dropped in function (-2.08 units) and the enhanced group advanced by +7.32 units on the FIM scale. A change in one unit is clinically significant, particularly at this point in the recovery curve. This improvement in function was maintained at 12 months for the enhanced group. The relative changes in FIM scores in the enhanced group between discharge and the three, six and twelve-month follow-ups are all greater than those in the usual care group.

**Pilot 2022-04: Change in FIM Scores**



**Pilot 2022-04: Change in Function**



**Case Costing**

Cost savings within the Pilot DLP were previously established using the Ontario Case Cost Distribution Methodology direct cost per diem (2003 acute care bed, East MOHLTC Region). The marked cost savings for readmissions alone associated with the enhanced community

based rehabilitation service (17% net cost savings) was sufficient to warrant continuation of the enhanced services with further evaluation of hospital utilization outcomes.

### **Changes in design from Pilot DL services to the current initiative**

In the original Discharge Link Pilot Project, an enhancement of Personal Support Worker (PSW) services was included as part of the intervention. The intensity of professional rehabilitation therapy (PT, OT and SLP) was found to be predictive of change in client function over time. However, the number of hours of non-professional visits (PSWs) was not predictive of change in client function. This lack of predictive value may have related to PSWs being largely untrained in rehabilitation principles. Based on that finding, an enhancement of PSW services was excluded from the current Discharge Link initiative. Based on feedback from focus groups regarding the need for psychosocial support, SW services were added to the enhanced rehabilitation services provided. The other changes were the addition of enhanced rehabilitation services to those being discharged to a LTC Home setting and to those going directly home from acute care.

## **APPENDIX B**

Discharge Link Initiative

Shared Work Experience Information

**STROKE NETWORK**  
of Southeastern Ontario

**KGH** KINGSTON  
GENERAL  
HOSPITAL

**Professional Stroke Education Fund  
Shared Work Experience  
And  
Field Training  
Educational Support Programs**

*Choose the education program that best suits your learning needs*

**Shared Work Experience Program**

One or more learners can spend time learning with a health care provider(s) working in stroke care. A financial incentive of up to \$200 is available to support the applicants.

**OR**

**Field Training Program**

This program is designed to support an educational event for a group of health care workers working in stroke care. Financial support of up to \$200 is available for an Instructor.

**Purpose** - Further develop stroke-specific knowledge, skill and professional networks for those working in stroke care.

**How to Apply**

1. Identify the individual or group's learning needs
2. Select the education program (above) that best suits your needs
3. Contact an appropriate learning partner or instructor
  - a. You may contact the Stroke Network of SEO for ideas about possible teachers, mentors and peers that you may want to contact to help you arrange your learning program
  - b. We can put you in touch with local Stroke Champion Nurses, PTs, OTs, Dietitians, Social Workers, Pharmacists and SLPs, etc. to help you plan your program
4. Submit the application form for approval
5. Submit the evaluation form to receive agreed upon funding



**APPLY NOW**

Application forms available from Charlette Eves, Administrative Assistant, Stroke Network of SEO, Ph: 613-549-6666 x3853 or Email: [evescl@kghkari.net](mailto:evescl@kghkari.net)



## APPENDIX C<sub>1</sub>

Discharge Link Initiative

Case Manager Protocol  
Clients Discharged to Community

## Enhancing Community–Based Therapy for Stroke Survivors

## Protocols for Stakeholders Case Managers (designate)

### Clients Discharged to the Community Setting

The case managers make the decision regarding client eligibility for CCAC service upon the client's discharge from the inpatient setting to the community.

**Hospital Case Manager Role** (these may vary to meet the administrative procedures of different settings).

1. Potential clients - identified in the usual CCAC case management assessment to determine if the client is eligible for CCAC services.
2. Once determined eligible the case manager will arrange the discharge link if possible. The discharge link visit **must be** face to face. The case manager will contact the community therapy provider to arrange the discharge link visit. The case manager will provide the name of the client's **inpatient OT/ contact number** to the **service provider (for the CCAC OT)** who will be providing the client's therapy in the community. The case manager will inform the client's **inpatient OT** that the client will be receiving the enhanced therapy and that the **CCAC OT** will be in touch to coordinate a time for the **Discharge Link Meeting**.
3. Planning/ organizing for this meeting could start as early as two weeks prior to discharge with the DL meeting ideally occurring within 72 hrs of discharge (see Guidelines for the DLM – separate document). The case manager will complete the referral and forward to the service provider. The therapy service provider will need to confirm the date of the discharge link meeting with the hospital case manager.
4. The hospital case manager in consultation with the hospital therapy team will also establish the initial plan of care. The hospital case manager will be responsible to authorize the first 4 weeks of the service plan and the plan could include all recommended therapy services – refer to the Enhanced Therapy Services Guidelines below. The service plan will also include that the community therapy providers provide a **verbal update** to the community case manager at the two week point in the service plan. The case manager will complete the appropriate documentation and follow the CHRIS BP. When sending the service offer the case manager will ensure it is noted in the provider notification that the referral is for “enhanced therapy for stroke”.
5. The hospital case manager will communicate with the community case manager in the usual manner.
6. Case managers are to refer to the CHRIS BP to support them in the correct CHRIS documentation for this referral.

### **Eligibility Criteria for Enhanced Services**

Clients will:

- Be 16 years of age or older and live in Southeastern Ontario
- Have had a recent stroke or a diagnosis of stroke
- Will be eligible for CCAC follow up therapy at home or in a residential care facility (not a LTC facility or nursing home)

### **Guidelines for the Enhanced Therapy**

- The Project supplies funding for increased therapy **above and beyond** the level of therapy that the CCAC would normally provide.

- The amount of increased therapy will be determined by the client's therapy goals within a maximum funding envelope.

This funding covers the following activities:

- a) The Discharge Link meeting
- b) Provider visits (per the guidelines below)

Pre-Discharge: The CCAC OT attends the **Discharge Link Meeting** with the inpatient OT, the client, and/or caregiver(s).

First 4 weeks: Up to: 2 extra visits/wk of OT and PT

1 extra visit/wk of SLP and SW \*

4-8 weeks: Up to: 1 extra visit/wk of OT and PT

1 extra visit/2wks of SLP and SW \*

### CCAC Baseline Guidelines for Therapy Services/ Application of Enhanced Services

For this initiative we have provided standard baselines for therapy services and the enhanced services will be above these baselines. The Pre-discharge link will be considered enhanced services if able to be arranged.

- **OT is normally weekly for 8 weeks; Enhanced services could be increased up to 3 visits per week for the first 4 weeks and up to 2 visits per week for the next 4 weeks**
- **PT is normally weekly for 8 weeks; Enhanced services could be increased up to 3 visits per week for the first 4 weeks and up to 2 visits per week for the next 4 weeks**
- **Social Work is normally as required; Enhanced services could be increased up to weekly for the first 4 weeks and up to bi-weekly for the next 4 weeks – See SW Note \* below**
- **Speech is normally weekly for the first 4 weeks and bi-weekly for the next 4 weeks; Enhanced services could be increased up to 2 visits per week for the first 4 weeks and up to weekly for the next 4 weeks**

### Community Case Manager Role

	CCAC Baseline Services	Enhanced Services Initial 4 Weeks	Enhanced Services Second 4 Weeks
OT	Weekly for 8 weeks	Up to: 2 extra visits/wk of OT CM could therefore authorize in the service plan <u>up to 3 visits per week for the first 4 weeks</u>	Up to: 1 extra visit/wk of OT CM could therefore authorize in the service plan <u>up to 2 visits per week for the next 4 weeks</u>
PT	Weekly for 8 weeks	Up to: 2 extra visits/wk of PT CM could therefore authorize in the service plan <u>up to 3 visits per week for the first 4 weeks</u>	Up to: 1 extra visit/wk of PT CM could therefore authorize in the service plan <u>up to 2 visits per week for the next 4 weeks</u>
SW	Social Work is normally as required	Up to: 1 extra visit/wk of SW CM could therefore authorize in the service plan <u>up to weekly visits for the first 4 weeks</u>	Up to: 1 extra visit/2wks of SW CM could therefore authorize in the service plan <u>up to bi-weekly for the next 4 weeks</u>
<b>SW NOTE:</b> * On a case-by-case basis if deemed appropriate, the service plan can be extended over 12 weeks (rather than 8) for <b>Social Work</b> services.			
SLP	Weekly for the first 4 weeks and bi-weekly for the next 4 weeks	Up to: 1 extra visit/wk of SLP CM could therefore authorize in the service plan <u>up to 2 visits per week for the first 4 weeks</u>	Up to: Up to: 1 extra visit/2wks of SLP CM could therefore authorize in the service plan <u>up to weekly for the next 4 weeks</u>

Community case manager will be responsible for the ongoing service plan.

- b) The therapy service providers will be updating the case manager at the two week point in the service plan.
- c) The community case manager will be responsible for establishing the second 4 week block in collaboration with the therapist. They will look to the baseline/ enhanced services when establishing the plan and will authorize the second 4 weeks based on the guidelines.

Community case managers may receive clients from CAT that have been discharged from SEO hospitals and have been missed by the hospital CM for this initiative (i.e. WE discharges). The community case managers will also receive referrals from hospitals outside the SEO Region for clients who could be eligible for the enhanced services. CAT when they receive referrals for this client population will process as per the normal process and the responsibility of establishing the enhanced service plan will become the community case managers in collaboration with the therapy providers in the community. The client must meet the criteria for the eligibility criteria for this initiative (noted previously). The case manager will work with the therapy providers who are doing the initial visit in the home to establish the service plan and will use the baseline/enhanced guidelines. The case manager when follow the CHRIS BP for the stroke strategy initiative.

**For Further Information Contact:**

**Caryn Langstaff**

Regional Stroke Rehab Coordinator SEO  
613-549-6666 x 6841  
[langstac@kgh.kari.net](mailto:langstac@kgh.kari.net)

**Jo Mather**

Manager, Client Services SE CCAC  
613-544-8200 x 4112  
[jo.mather@se.ccac-ont.ca](mailto:jo.mather@se.ccac-ont.ca)

Rev. June 2011

## APPENDIX C<sub>2</sub>

Discharge Link Initiative

Case Manager Protocol  
Clients Discharged to LTC

## Enhancing Community-Based Therapy for Stroke Survivors in LTC

## Protocols for Stakeholders Case Managers (or designate)

### Clients Discharged to the LTC Setting

The case managers make the decision regarding client eligibility for CCAC service upon the client's discharge from the inpatient setting to the LTC setting.

**Hospital Case Manager Role** (these may vary to meet the administrative procedures of different settings).

7. Potential clients are identified by Rehab Therapist if following ALC-LTC client or by Placement Case Manager/ Discharge Planners if being discharged to LTC from hospital.
8. Hospital case manager will determine if client meets criteria for enhanced therapy in LTC / perform assessment / determine eligibility for CCAC services / complete appropriate assessment.
9. If eligible the hospital case manager will authorize one OT visit in the LTC home for the initial assessment. When contacting the service provider with the service offer, the case manager will identify that the referral is for enhanced therapy in the LTC home.
10. The Case Manager will advise Gwen Brown, Regional Stroke Community & Long Term Care Coordinator, of any new patients transitioning to LTC under the enhanced program. (Do not include any PHI – just indicate that a client is being discharged to a LTCH and include the date if known).

Gwen's contact information is as follows:

Telephone: (613) 549-6666. ext. 6867

Email: [browng2@kgh.kari.net](mailto:browng2@kgh.kari.net)

Facsimile: (613) 548-2454

11. The case manager will follow the CHRIS BP when completing this referral

### Eligibility Criteria for Enhanced Services

Clients will:

Be 16 years of age or older and live in Southeastern Ontario

d) Have had a recent stroke or a diagnosis of stroke

e) Will be eligible for CCAC follow up therapy in a LTC facility or nursing home

### Community Case Manager Role

1. The OT in collaboration with the client/case manager will establish the first 4 week plan of care. The CM will use the baseline/enhanced guidelines to help establish the plan. This plan could include OT/ SW/ SLP. PT will not be authorized as this service is already provided by LTC homes. The overall service plan could include OT visits for the authorizing of wheelchairs and adaptive equipment (ADP) if part of the overall treatment plan and goals for the client.
2. The OT will attempt to arrange a care plan meeting date in the LTC home. The planning meeting will include the LTC home PT, DOC or designate, client and family when possible and other care providers as deemed appropriate by the DOC/designate. The OT will communicate to the community case manager if she was able to arrange
3. The service providers will communicate to the community case managers any changes to the service plan



The guidelines for the enhanced therapy visits are identified for each discipline and the expectation is that the service plan should occur as authorized. The focus for this initiative is that clients receive enhanced services as identified in the service plan. However, if there is a client situation that occurs where visits might need to occur differently than the proposed plan, the therapy providers will need to dialogue with the case manager.

**For Further Information Contact:**

**Caryn Langstaff**

Regional Stroke Rehab Coordinator SEO  
613-549-6666 x 6841  
[langstac@kgh.kari.net](mailto:langstac@kgh.kari.net)

**Jo Mather**

Manager, Client Services SE CCAC  
613-544-8200 x 4112  
[jo.mather@se.ccac-ont.ca](mailto:jo.mather@se.ccac-ont.ca)

Rev. June 2011

## APPENDIX C<sub>3</sub>

Discharge Link Initiative

Guidelines for Discharge Link Meeting

## Enhancing Community-Based Therapy for Stroke Survivors

## Guidelines for the Discharge Link Meeting

### I Background: Enhancing Community-based Rehabilitation for Stroke Survivors

The project goals include:

**For Stroke Survivors:** to improve access to timely enhanced community rehab services for improved function, emotional support and satisfaction with transition to home.

**For Healthcare Providers:** to improve information flow and stroke care expertise.

**For the Health Care System:** to decrease Emergency Room visits and hospital readmissions by supporting transition to home for those with new stroke and providing timely enhanced community rehabilitation support.

**Therapy Interventions:** Enhanced Therapy will consist of an increased amount of therapy, above what would normally be provided. Clients may also participate in a Discharge Link Meeting between the Hospital OT and the Community OT which takes place before the client is discharged from hospital.

**The Discharge Link Meeting:** Clients may participate in a Discharge Link meeting. This meeting occurs between the hospital inpatient occupational therapist (OT) and the CCAC OT prior to discharge. (Physiotherapists and Speech Language Pathologists will continue to exchange treatment information in the usual way). The purposes of the Discharge Link meeting are:

- To improve the communication of client goals, therapy plans and treatment techniques through a face-to-face meeting of the inpatient OT and the Community OT.
- To increase client involvement by allowing the client to be part of the process.

### II Guidelines for Arranging the Discharge Link Meeting

1. The CCAC case manager (or designate) will inform both the inpatient and community OTs of the imminent discharge of a stroke client to the community. The Discharge Link meeting will only be considered for clients who are being discharged from hospitals to areas that are serviced by the same provider (i.e. Kingston hospitals to KFLA and QHC to HPE but not QHC to KFLA or Kingston hospitals to HPE or LLG).
2. The CCAC OT will contact the hospital OT and coordinate the DL meeting (**must be face to face**) to take place just prior to the client's discharge from the inpatient setting. Planning/ organizing for this meeting could start as early as two weeks prior to discharge with the DL meeting ideally occurring within 72 hrs of discharge.
3. The inpatient OT will arrange for the client and his/her caregivers to be present at the DL meeting if possible. The DL meeting takes place.
4. In the acute setting:

if LOS > 7days, proceed with DL meeting;

if LOS < 7 days, DL meeting is optional

### III Topics for Discussion at the Discharge Link Meeting

The following are *suggested* topics to discuss at the DL meeting.

- Client's history
- Client's goals in inpatient setting (those attained, those still outstanding)
- Therapeutic treatment
- Client's response to treatment, suggested approaches.
- Client's progress (functional abilities, other assessments results)
- Client's goals for community and home
- Role of caregivers, family support
- Special needs in community
- Equipment and adaptations
- Where possible and feasible, written materials or instructions such as photos or sketches will be made available at this meeting.

#### **Note:**

Please note that the Discharge Link Meeting is not intended do replace any other normally scheduled meetings such as the home assessment. The CCAC home assessment and communications regarding home modifications (if required) will continue in the usual way. The DL meeting will focus on client goals and ongoing therapy to facilitate stroke recovery in the community and/or home environment.

#### **For Further Information Contact:**

**Caryn Langstaff**

Regional Stroke Rehab Coordinator SEO  
613-549-6666 x 6841  
[langstac@kgh.kari.net](mailto:langstac@kgh.kari.net)

**Jo Mather**

Manager, Client Services SE CCAC  
613-544-8200 x 4112  
[jo.mather@se.ccac-ont.ca](mailto:jo.mather@se.ccac-ont.ca)

Rev. June 2011

## APPENDIX C<sub>4</sub>

Discharge Link Initiative

Therapy Provider Protocol  
Clients Discharged to Community

## Enhancing Community-Based Therapy for Stroke Survivors

## Protocols for Stakeholders Therapy Providers

### Clients Discharged to the Community Setting

The providers are the Occupational Therapists, Physiotherapists, Speech Language Pathologists and Social Workers contracted by the CCACs to provide rehab service.

**Actions:** (these may vary to meet the administrative procedures of different settings).

1. Obtain a new stroke client's referral in the customary way.
2. **If you are an OT:** Your CCAC case manager will give you the name and number of the client's **inpatient OT**. Please contact him/her immediately and arrange a time for the **Discharge Link Meeting (DLM)**.
3. Planning/ organizing for this meeting could start as early as two weeks prior to discharge with the DL meeting ideally occurring within 72 hrs of discharge.
4. The DLM **must be face to face** (see Guidelines for the DLM – separate document).

#### **All Providers will:**

1. Provide the enhanced level of therapy as determined by the client's treatment plan and continue to communicate care plans in the usual manner to the case managers.
2. Provide the CM with a verbal report two weeks into the initial plan, as requested by the CM.
3. Select educational videos from the TIPS and TOOLS resources for use with the PSWs, client/family and other caregivers to review that pertain to the client's plan of care/treatment approach.

#### **Guidelines for the "Increased" Therapy**

The Project supplies up-front funding for increased therapy that is **above and beyond** the level of therapy the CCAC would normally provide within a maximum funding envelope. The amount of increased therapy will be determined by the client's therapy goals for each client. The increased therapy includes the following activities:

- a) The Discharge Link meeting.
- b) Therapy Provider visits (as per the guidelines below).

Pre-Discharge: The CCAC-contracted OT attends the **Discharge Link Meeting** with the inpatient OT, the client, and/or caregiver(s).

First 4 weeks: Up to: 2 extra visits/wk of OT and PT  
1 extra visit/wk of SLP and SW \*

4-8 weeks: Up to: 1 extra visit/wk of OT and PT  
1 extra visit/2wks of SLP and SW \*

**SW NOTE:** \* On a case-by-case basis if deemed appropriate, the service plan can be extended over 12 weeks (rather than 8) for **Social Work** service.

**For Further Information Contact:**

**Caryn Langstaff**

Regional Stroke Rehab Coordinator SEO  
613-549-6666 x 6841  
[langstac@kgh.kari.net](mailto:langstac@kgh.kari.net)

**Jo Mather**

Manager, Client Services SE CCAC  
613-544-8200 x 4112  
[jo.mather@se.ccac-ont.ca](mailto:jo.mather@se.ccac-ont.ca)

Rev. June 2011

## APPENDIX C<sub>5</sub>

Discharge Link Initiative

Therapy Provider Protocol  
Clients Discharged to LTC

## Enhancing Community-Based Therapy for Stroke Survivors

## Protocols for Stakeholders Therapy Providers

### Clients Discharged to the LTC Setting

The providers are the Occupational Therapists, Speech Language Pathologists and Social Workers contracted by the CCACs to provide rehab service. CCAC physiotherapy providers will not participate in the enhanced CCAC services in LTC as LTC Homes already have their own contractual arrangements with Physiotherapy providers.

**Actions:** (these may vary to meet the administrative procedures of different settings).

5. Obtain a new stroke client's referral in the customary way.
6. **If you are an OT you will:**
  - Be the first provider in the LTC home from the CCAC
  - Establish the initial service plan in collaboration with the client/ case manager. This plan could include OT/SW/ SLP if identified as a need. The initial service plan will be for 4 weeks.
  - Provide for Assistive Devices Program Assessment if part of the overall treatment /goals
  - Communicate to the DOC the planning meeting date. This meeting will include LTC home PT, DOC (or designate, other care providers if required and client/family if able.

#### **All Providers will:**

4. Provide the enhanced level of therapy as determined by the client's service plan and continue to communicate care plans in the usual manner to the case managers.
5. Communicate any changes to the service plan to the Case Manager along with rationale.
6. Collaborate with the case manager in establishing the second 4 week plan.
7. Select educational videos from the TIPS and TOOLS resources for use with the PSWs, client/family and other caregivers to review that pertain to the client's plan of care/treatment approach.

#### **Guidelines for the "Increased" Therapy**

The Project supplies up-front funding for increased therapy that is **above and beyond** the level of therapy the CCAC would normally provide within a maximum funding envelope. The amount of increased therapy will be determined by the client's therapy goals for each client. The increased therapy includes the following activities:

- c) The initial OT assessment.
- d) Care plan meeting in LTC
- e) Therapy Provider visits (as per the guidelines below).

First 4 weeks:	Up to:	2 extra visits/wk of OT 1 extra visit/wk of SLP and SW *
4-8 weeks:	Up to:	1 extra visit/wk of OT 1 extra visit/2wks of SLP and SW *

**SW NOTE:** \* On a case-by-case basis if deemed appropriate, the service plan can be extended over 12 weeks (rather than 8) for **Social Work** service.

**For Further Information Contact:**

**Caryn Langstaff**

Regional Stroke Rehab Coordinator SEO  
613-549-6666 x 6841  
[langstac@kgh.kari.net](mailto:langstac@kgh.kari.net)

**Jo Mather**

Manager, Client Services SE CCAC  
613-544-8200 x 4112  
[jo.mather@se.ccac-ont.ca](mailto:jo.mather@se.ccac-ont.ca)

Rev. June, 2011

# APPENDIX D

Discharge Link Initiative

Brochure

**ENHANCING SERVICES**

Timely, enhanced community and LTC rehabilitation services have been provided to stroke survivors in Southeastern Ontario since February 2009 with the launch of an innovative LHIN-funded project. In April, 2011, recognizing the critical role this enhanced service plays in both improving stroke survivors' functional outcomes and health system utilization as evidenced by reduced lengths of stay, the LHIN committed to ongoing funding for this regional standard of service in support of best practice in stroke care.

Eligible stroke survivors will continue to be considered for enhanced Physiotherapy (PT), Occupational Therapy (OT), Social Work (SW) and Speech Language Pathology (SLP) services for two months following discharge home or to Long Term Care.



**Enhanced Service Objectives:**

**For Stroke Survivors:** to improve access to timely enhanced community and LTC rehab services for improved function, emotional support and satisfaction with transition to home.

**For Healthcare Providers:** to improve information flow and stroke care expertise.

**For the Health Care System:** to decrease length of stay, Emergency Room visits and hospital readmissions by supporting transition to home for those with new stroke, providing timely enhanced community and LTC rehabilitation support.

**CONTACTS**

**Stroke Network of Southeastern Ontario:**  
 Caryn Langstaff, Regional Stroke Rehabilitation Coordinator  
 (613) 549-6666 x 6841  
[langstac@kgh.kari.net](mailto:langstac@kgh.kari.net)

Gwen Brown, Regional Stroke Community and LTC Coordinator  
 (613) 549-6666 x 6867  
[gbrowng2@kgh.kari.net](mailto:gbrowng2@kgh.kari.net)

**South East Community Care Access Centre:**  
 Jo Mather, Client Services Manager  
 (613) 544-8200 x4112  
[jo.mather@se-ccac.on.ca](mailto:jo.mather@se-ccac.on.ca)

**ENHANCING COMMUNITY AND LONG TERM CARE STROKE REHABILITATION IN SOUTHEASTERN ONTARIO: DISCHARGE LINK**

**IMPROVING THE SYSTEM OF STROKE CARE**



Funded by the Southeast LHIN

**ABOUT THE SERVICE**

Enhanced Community & LTC Rehabilitation has been shown, in a prior regional pilot project to improve outcomes by providing faster change in function on return to the community or on transition to LTC. This was also coupled with decreased health system costs such as reduced length of hospital stay and reduced hospital readmission rates. Implementation of this innovative model of care has two closely related components:

**1. Enhanced Timely Community and LTC Rehabilitation Services**

Timely intensive stroke rehabilitation services are delivered at home, residential settings or LTC settings to meet both client and health system objectives.

To be eligible for enhanced service, clients must be over 16, have had a recent stroke, and be eligible for therapy from a Community Care Access Centres (CCAC). Case managers determine those eligible for CCAC services. Therapists contracted by the CCAC provide an enhanced level of therapy for the first two months following clients' return to the community or LTC setting. (Residents in LTC Homes will continue to receive physiotherapy from their contracted providers.)

Whenever possible a "Discharge Link" meeting occurs between the hospital Occupational Therapist (OT) and the CCAC OT prior to discharge to communicate and coordinate treatment plans of care and objectives of treatment. For LTC residents, a collaborative care plan meeting is arranged by the CCAC OT, and may include the LTC Director of Care, or designate, LTC Physiotherapist, direct care providers, client and family whenever possible.

**2. Community and LTC Stroke Expertise**

Regional Stroke Education resources are made available and promoted for use in the community and LTC settings to assist in developing an Interprofessional team approach to best practice stroke care.



**PARTNERS**

**South East Community Care Access Centre**

This includes the counties of Lanark, Leeds and Grenville (LLG), Kingston, Frontenac, Lennox & Addington (KFLA) and Hastings and Prince Edward (HPE), as well as the Brighton area. The CCAC will consider enhanced therapy for eligible stroke survivors through their contracted providers. Therapy providers include Occupational Therapists, Physiotherapists, Speech Language Pathologists and Social Workers. (contracted physiotherapy providers in LTC will continue to provide PT services.)

**Stroke Network of Southeastern Ontario**

The Stroke Network Regional Rehabilitation Coordinator partners with the Client Services Manager of the SECCAC in supporting the implementation of enhanced rehabilitation

services in SEO. Coordination includes overseeing process training and expert stroke education, coordination of enhanced services, program evaluation, outcome reporting, and ongoing communication between all regional partners.

**Hospital and Inpatient Rehabilitation Facilities**

Acute care hospitals, complex continuing care and rehabilitation facilities will discharge clients to enhanced CCAC services in community and LTC settings. This includes Kingston General Hospital, Providence Care (St. Mary's site), Lennox and Addington County General Hospital, Brockville General Hospital (2 sites), Quinte Health Care (4 sites) and Perth and Smiths Falls District Hospital (2 sites). The hospital teams will identify potential clients, assist in the discharge process and host the Discharge Link meeting where applicable.

**Clients and Families**

To ensure a client focus, the rehabilitation goals of stroke survivors and their families help to drive the initial care planning process. The key roles played by the client and family continue throughout their stay on the Enhanced Rehab Program. This collaborative approach, based on best practice interprofessional care, supports improved functional outcomes, decreased lengths of stay in hospital and reduced Emergency Room visits.

The provision of timely intensive stroke rehabilitation services upon transition to the community has a positive impact on health system utilization and stroke survivor outcomes.

## APPENDIX E

Discharge Link Initiative

Tips and Tools for Everyday Living:  
A Guide for Stroke Caregivers  
Video Series Flyer

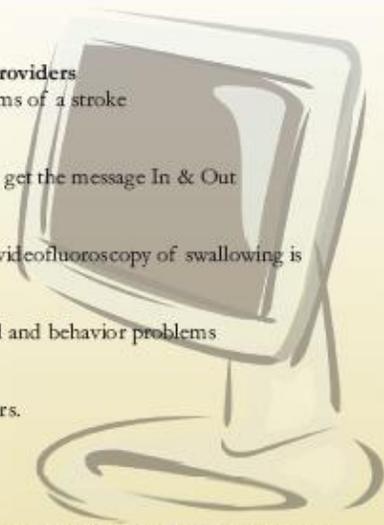
# Tips & Tools for Everyday Living: A Guide for Stroke Caregivers "Putting it into Practice" Video Series

This video series assists front line stroke caregivers to provide best practice stroke care. Key sections of the Tips and Tools for Everyday Living: A Guide for Stroke Caregivers (HSFO, 2002) are presented in each video.

## VIDEO SERIES

### Front Line Healthcare Provider Education Videos:

1. **Recognize & React to the Signs & Symptoms of Stroke for Healthcare Providers**  
An introduction to stroke and how to recognize & react to the signs & symptoms of a stroke (interactive case studies included)
2. **Communication**  
An introduction to impaired communication due to stroke and how to assist to get the message In & Out (interactive case study included)
3. **Meal Assistance & Hydration**  
How to assist stroke survivors who have feeding and swallowing problems. A videofluoroscopy of swallowing is included.
4. **Cognitive, Perceptual & Behavioral Problems**  
How to recognize and implement strategies for those with cognitive, perceptual and behavior problems (interactive case study included)
5. **Mobility**  
How to perform common mobility and transfer techniques with stroke survivors.



### Family & Community Education Video:

1. **Recognize & React to the Signs & Symptoms of Stroke**  
The Stroke Survivor, family and community members can begin to recognize & react to the signs & symptoms of a stroke.

## MULTIMEDIA

### INTERNET:

Visit the Southeastern Ontario Stroke Strategy website at [www.strokesstrategyseo.ca](http://www.strokesstrategyseo.ca), and view the videos under *Professional Education*

**\*\*Note:** Microsoft Media Player 9 and high speed internet is required to view these videos. You can download this program from the website or through your IT Department.

### VHS & DVD:

VHS and DVD copies will be circulated throughout Southeastern Ontario over the upcoming months.

*For more information, please contact:*

**Sue Saulnier**  
Regional Stroke Education Coordinator  
613-549-6666 x3622  
[saulnies@kgh.kari.net](mailto:saulnies@kgh.kari.net)

**Gwen Brown**  
Community & LTC Stroke Coordinator  
613-549-6666 x6867  
[browng2@kgh.kari.net](mailto:browng2@kgh.kari.net)

# APPENDIX F

Discharge Link Initiative

Project Data Elements

<b>Acute Care Setting</b>	<b>Source (Item #) (Add field name)</b>	<b>Collected (time frame)</b>
Hospital ID Code	CIHI - DAD	
ICD code – primary Dx	CIHI - DAD	
Co-morbid health	CIHI - DAD	
Secondary Dx	CIHI-DAD	
HCN	CIHI - DAD	
Postal code (3 to 5 digits)	CIHI - DAD	
Gender	CIHI - DAD	
Age on discharge	CIHI - DAD	
Adm Date (m/d/yr)	CIHI - DAD	
D/C date (m/d/yr)	CIHI - DAD	
D/C Disposition	CIHI - DAD	
Alpha FIM score	CIHI - DAD	
ALC LOS >0 ( yes, no)	CIHI - DAD	
If ALC – DC disposition (needs a subprogram)	CIHI - DAD	
ALC days	CIHI - DAD	
Procedures	CIHI - DAD	
Consults	CIHI - DAD	
Overall LOS	CIHI-DAD	
R.I.W.	CIHI-DAD	
Residence code (Rural vs. Urban)	CIHI-DAD	

<b>IN PT Rehab Setting</b>	<b>Source (Item#)</b>	<b>Collected (time frame)</b>
Rehab Client Group	CIHI NRS	
Adm date	CIHI NRS	
Adm FIM score	CIHI NRS	
Date ready for D/C	CIHI NRS	
D/C date	CIHI NRS	
D/C FIM	CIHI NRS	
Post d/c setting	CIHI NRS	
Post d/c living	CIHI NRS	
D/C Link mtg – yes/no		
Date of D/C Link mtg		
D/C Disposition	CIHI NRS	

<b>Community CCAC</b>	<b>Source (Item#)</b>	<b>Collected (Time frame)</b>
Date of first visit	CCAC	
LCC office	CCAC	
PSW Consultation Y/N	CCAC	
Date of PSW mtg	CCAC	
Services provided	CCAC	
Visits by discipline	CCAC	
Length of time on service OR Last date of service	CCAC	
Caregiver strain - CSI	CCAC	
Informal support	CCAC	
Respite care usage	CCAC	
Application to LTC – placement coordination service – urgency level	CCAC	
CCAC case costing	Manual calculation	

<b>Emergency Dept</b>	<b>Source (Item#) (Add field name)</b>	<b>Collected (time frame)</b>
Hospital ID Code	NACRS	
Date of visit (m/d/yr)	NACRS	
Time of visit (m/d/yr)	NACRS	
ICD code – primary Dx	NACRS	
ICD code- secondary/comorbid (?)	NACRS	
TPA administered	NACRS	
Procedures	NACRS	
Consults	NACRS	
D/C disposition	NACRS	
DPG	NACRS	
For ER visits – track: If adm to hospital- back to list above i.e.		
Adm Date (m/d/yr)	CIHI - DAD	
ICD code – primary Dx (? also secondary/ co morbid)	CIHI - DAD	
ALC – yes/no	CIHI - DAD	
If yes, DC disposition ( program)	CIHI - DAD	
ALC days	CIHI - DAD	
D/C date	CIHI - DAD	
D/C disposition	CIHI - DAD	
Total LOS	CIHI-DAD	
RIW	CIHI-DAD	

<b>Other Items</b>	<b>Data source</b>	
Caregiver name	Consent form / tracking form	
Caregiver contact info	Consent form / tracking form	
D/C Link mtg – yes/no	Tracking form	
Date of D/C Link mtg	Tracking form	
Stroke Prevention Clinic Visit	Prevention clinic record	

## APPENDIX G

Discharge Link Initiative

Client Interview Consent  
Client Story Guideline



## ENHANCING COMMUNITY AND LONG TERM CARE STROKE REHABILITATION IN SOUTHEASTERN ONTARIO: DISCHARGE LINK

### CONSENT FORM Client Story Interview

I, \_\_\_\_\_, hereby consent to participate in a personal interview, being a person who experienced a stroke (or caregiver of a stroke survivor) who participated in the enhanced community-based rehabilitation therapy service (Discharge Link) in Southeastern Ontario.

The purpose of the interview is to capture my personal experiences in stroke recovery throughout my participation in enhanced community-based rehabilitation services. I understand that my personal story may be printed in various resources or reports by the Southeast Community Care Access Centre (CCAC) and/or the Stroke Network of Southeastern Ontario. Names will not be printed in the interest of client and family confidentiality, however, I understand that the nature of personal stories can sometimes hinder full client anonymity. I understand and agree that the interview will be audio taped for accuracy of content.

The purpose of participation in the interview has been explained to me. I have had the opportunity to ask questions which have been answered to my satisfaction.

By signing this consent form, I am indicating that I agree to participate in the interview and to permit the publication and sharing of my story.

Dated at Kingston, Ontario this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

\_\_\_\_\_  
Signature of Witness  
Caryn Langstaff

Regional Stroke Rehabilitation Coordinator SEO  
613-549-6666, ext. 6841  
[langstac@kgh.kari.net](mailto:langstac@kgh.kari.net)

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Name of Participant (Printed)



## ENHANCING COMMUNITY AND LONG TERM CARE STROKE REHABILITATION IN SOUTHEASTERN ONTARIO: DISCHARGE LINK

### Client Story Interview

#### Explain purpose of interview and obtain Consent.

The purpose of the interview is to capture your story and experiences, being a person who experienced a stroke (or caregiver of a stroke survivor), in stroke recovery throughout your participation in enhanced community-based rehabilitation 'Discharge Link' services. The focus of this interview will be on your transition from hospital to home and your recovery period following discharge home from hospital.

Interviewee Name: \_\_\_\_\_

- Client
- Client & Family
- Family

When was your stroke?

When were you discharged home?

What types of things were of concern for you on discharge home that became a focus of your home-based therapy?

Service by discipline received:

- Physiotherapy
- Occupational Therapy
- Speech-Language Pathology
- Social Work

#### Tell me a little about your experience with enhanced community-based therapy.

Listen for themes:

- Client Outcomes – Function, Independence
- Transition Home and Access to Service
- Format of Service Delivery
- Client / Family Centred Care
- Client Satisfaction

#### What did you value most about your enhanced community-based therapy? If you could change anything, what might that be?

What was your understanding of what therapy at home would look like?  
Did it meet your expectations?