STROKE NETWORK *of* Southeastern Ontario

Interprofessional Outcome Measures Across the Continuum of Stroke Care in KFL&A

Summary Report from March 9, 2011 Interprofessional Workshop

Background

In April 2007, the Ontario Stroke System published the Consensus Panel on the Stroke Rehabilitation System "Time is Function" Report. In supporting the uptake of the recommendations of that Report, community forums were held across the Southeast Ontario Region by the SEO Stroke Network, between November, 2007 and March, 2008. Those forums were designed to engage health care professionals working in community and hospital rehabilitation settings around twenty (20) identified standards in practice. A number of initiatives arose from the Regional Forums, including the development of an Outcome Measures Workshop in the Quinte area, wherein Quinte Health Care hospital rehab providers and Quinte & District Rehabilitation Services community rehab providers collaborated around the evaluation of outcome measures in use across the hospital-community continuum in that part of the Region.

In 2009, the Canadian Stroke Network struck a National Rehab Consensus Panel of experts to set as a key objective to "prioritize a set of outcome measures in the various domains of the International Classification of Functioning that could be used to evaluate the outcomes of stroke rehabilitation in Canada." Significant inconsistencies in the outcome measures in use were observed nationally. It was also determined that outcome measures are frequently used only at admission and not at discharge, and that outcome measures currently used are not necessarily those evaluated for responsiveness.

The 2010 Best Practice Recommendations for Stroke Care, Section 5.1, Rehabilitation - Assessment Recommendation, states that "Clinicians should use standardized, valid assessment tools to evaluate the patient's stroke related impairments and functional status."

Based on the success of the Quinte area Workshop, and Canadian Best Practices in rehabilitation, Regional planning commenced to ensure other parts of the SEO Region were afforded the same opportunity as Quinte for reflection and action planning towards implementation of best practice in outcome measures use. On that basis, a similar Outcome Measures Workshop was held in Kingston on March 9, 2011, for health care professionals in Kingston, Frontenac and Lennox & Addington Counties (KFL&A). Similar Workshops are also now being planned for Lanark (Perth, Smiths Falls) for the Fall of 2011, and for Leeds, Grenville (Brockville) area in early 2012.

The design of the KFL&A Outcome Measures Workshop was also intended to provide for interprofessional collaboration, both within teams, as well as across facilities and sectors. Interprofessional health care providers from acute, rehab and community settings were invited to participate. In addition to SEO Stroke Network team support, cross-

representation of disciplines, settings and sectors comprised the Outcome Measures Workshop Planning Committee. Learnings from the prior HPE Outcome Measures Workshop prompted extending the invitation both in the planning and in Workshop participation to CCAC Administrators and Case Managers.

The objectives of the KFL&A Workshop were to identify opportunities to enhance collaborative interprofessional patient care planning and implementation to improve stroke care outcomes through the review and selection of outcome measures used across the continuum of care in KFL&A. By the end of the workshop, participants were afforded the opportunity to:

- Learn which outcome measures are currently being used across the continuum of care in KFL&A and how these outcome measures align with the Provincial and Canadian best practice recommendations;
- Better understand the use and interpretation of outcome measurement tools;
- Enhance interprofessional collaboration through understanding of the outcome measures used and the roles and scope of practice of the interprofessional team members;
- Further develop a collaborative network of health care providers across the continuum of care;
- Further develop and share stroke expertise across the continuum of care;
- Consider whether there are new tools that could be used;
- Develop a common set of standardized outcome measurement tools to measure function.

The format and content of the workshop day were dependent on the information obtained from front-line staff in the KFL&A area relative to current outcome measures practices. Therefore, initial planning for the KFL&A Outcome Measures Workshop involved a pre-workshop evaluation of outcome measures used by all members of each interprofessional team in the acute and rehab hospital settings and in the community. Electronic evaluation was conducted using Survey Monkey, wherein the interprofessional team members and administrators within each participating team were surveyed as to what outcome measures they currently use, ease of use, barriers to administration, tools of interest, those not currently in use, etc. For a comprehensive summary of the Pre-Workshop Survey Results, refer to Appendix "A" attached. Also attached hereto as Appendix "B" is the Workshop Agenda, delineating final the content and format of the day, which was aligned with the interests and needs of the participants based on survey results.

Concurrently, utilizing the National Rehabilitation Consensus Panel recommendations and Evidence-Based Review of Stroke Rehabilitation (EBRSR), the Planning Committee consolidated information relating to clinical use and interpretation of those Outcome Measures recommended by the National Consensus Panel. It was felt that a resource such as this would assist in improving cross-discipline, cross-sectoral communication and improve understanding of patients' functional status relative to documented scores under particular Outcome Measures. Refer to Clinical Use and Interpretation Chart attached hereto as Appendix "C". The 'Clinical Use' column within this Chart consolidate front-line clinicians' experience with the respective outcome measures, and reflect some of the barriers and enablers in their clinical applications.

Upon consolidation of the Pre-Workshop survey results, the Planning Committee categorized each tool into one of the following functional domains: Functional Independence; Motor/Mobility; Cognition/Perception; Communication; Emotion and Dysphagia. Evaluation of the data included identifying tools used consistently across sectors, tools in use which align with the National Consensus Panel recommendations; gaps in outcome measures use by domain, facility or by sector; quantifying ease of use ratings, barriers to use, etc., and identifying common tools not currently in use, but which participants wished to learn more about.

The Pre-Workshop survey results provided the basis and content in planning the half-day Workshop. The workshop was held March 9, 2011, in Kingston, providing a forum and content format designed to achieve the objectives outlined herein. The workshop began with an overview of the National Best Practice Outcome Measures. An overview of the Pre-Workshop Survey Results provided the opportunity for the larger group to frame the sub-regional picture and start to identify gaps, action areas, and opportunities for growth. Two detailed case studies were presented by interprofessional, cross-sectoral (acute-rehab-community) teams, bringing outcome measures to life by linking outcome measure scores at various stages of patient recovery with their functional status. It was important to recognize that there were members of the audience who had little to no familiarity with these outcome measures. Basic introductory information about what the outcome measures were and how they are used was introduced during the first two presentations and was further demonstrated during two case studies that the many of the interprofessional team members were familiar with. The participants also were provided the Canadian Best Practice Outcome Measures Recommendations table (updated 2008) and a list of the outcome measures with their abbreviations to refer to during the workshop.

Following the case studies, brief inservices were provided on Outcome Measures identified in the Pre-Workshop survey as tools participants wanted to learn more about. Those tools included: the Hospital Anxiety & Depression Scale (HADS); the Brief Assessment Schedule Depression Cards (BASDEC); the Chedoke Arm and Hand Activity Inventory (CAHAI); the Chedoke-McMaster Upper and Lower Extremity Stroke Assessment; the Frenchay Aphasia Screen Test (FAST); and Functional Independence Measures used across the continuum (FIM – rehab; AlphaFIM – acute; and InterRAI – community).

The next component of the Workshop involved Focus Group / Carousel Table Discussions. Participants shared their perspectives on which tools best guide intervention and/or facilitate interprofessional and cross-sectional collaboration. Group discussion also reflected on whether there are outcome measurement tools that should be considered for incorporation into practice. Following consideration of individual and group perspectives, participants began to identify tools to recommend for consistent use within and across teams and consider how use of outcome measures can be facilitated.

At the beginning of the workshop, participants were provided with an action and reflection form, and were instructed to record their ideas throughout the day regarding the "Reflection" and "Action" questions being used during the Focus Groups and Action sessions. Attached hereto as Appendix "D" is a sample of the participant action and reflection form. The format of this document outlined reflections and actions by domain, and delineated personal, team and cross-sectoral actions. The guiding questions were as follows:

Reflection Questions:

- Which tools best guide your interventions?
- What tools would best facilitate interprofessional and cross-sectoral collaboration?

Action Questions:

- Are there tools you would like to consider incorporating into practice?
- Are there tools you would recommend within KFLA for consistent use across sectors and/or within teams?
- How can we facilitate use of these outcome measures? (e.g., communication/common language/documentation)

The Carousel Focus Group approach to sharing perspectives and learning from each other is designed to allow a large group of people to quickly share their ideas in a way that facilitates the generation of deeper and broader understanding, ideas and actions. Groups of people rotate through discussion groups in a very limited amount of time. The groups' members change each time. Each table discusses and develops ideas and actions around one idea or problem. The groups then switch tables and the next group then uses the previous group's ideas to build on and develop plans which are built from a deeper understanding of the original topic or problem.

With this format, cross-sectoral, interprofessional groups rotated amongst two of the six domain-specific tables, with the guiding reflection and action questions and the facilitators supporting the discussions. The original plan provided for a three-table rotation, however, time constraints arising from group discussions, necessitated real-time program modification. A facilitator guided each table discussion, and table set up included flip charts to document group ideas, as well as samples of domain-specific best practice outcome measures for participants to view. The tables were identified as follows:

Carousel Tables for Focus Group Discussions

Functional Independence
FIM, Alpha-FIM, Inter RAI

Motor/Mobility
BERG Balance Scale, Timed "Up and Go" Test, Chedoke Arm and Hand Activity Inventory (CAHAI), Chedoke-McMaster U-E/L-E Stroke Assessment (CMSA); COVS

Cognition/Perception
MoCA Screen, MMSE Screen, MVPT/OSOT

Communication
BDAE, BDAE Short Form, WAB, Frenchay Language Screen

Emotion
BASDEC Screen, HADS Screen

Dysphagia
STAND Screen, TORBSST Screen

These discussions lead to the closing component of the day which was an opportunity for reflection and action planning as a large group. In this larger group discussion, table discussions were summarized, with broader group perspectives offered on two key points: what are recommended consistent tools within each domain; and what can be considered for future use of best practice recommended outcome measures. Actions arising were consolidated at personal, team and cross-sectoral levels. See Appendix "E" for a comprehensive summary of action items, delineated in each domain by personal, team and sector. Team and sectoral actions identified will be supported by the SEO Regional Stroke Network, with a number of action items being incorporated into the SEO Regional Workplan, wherein formalized support and monitoring will be offered.

Workshop Evaluation

Approximately 50 people attended the KFL&A Interprofessional Outcome Measures Workshop. Physiotherapists, Occupational Therapists, Speech-Language Pathologists, Nurses, Social Workers, Physicians, Managers, and Administrators, all working in various sectors of the care continuum were represented. Physiotherapy represented 22.5% of the attendees, Occupational Therapy 12.5%, Nursing (RN and RPN) 25%, Speech Language Pathology 7.5%, Social Work 5%, Registered Dietitian and Recreation Therapy each represented 2.5% of participants. CCAC Case Managers represented 10% of attendees, and Administrators represented 5%. There were also two Psychologists in attendance as well as one Physiatrist.

Sector representation of the workshop participants reflected 40.6% from an Inpatient Rehab setting, 40.6% from the Community, 12.5% from Acute Care and 6.3% from Complex Continuing Care. Some therapists in attendance work in more than one setting (e.g., acute and complex continuing care).

A post workshop survey was conducted using the Survey Monkey tool to assess the effectiveness of the day. The group was a well experienced clinical group. Of those completing the survey, 43.8% reported greater than 20 years' experience, 15.6% with 11-19 years experience, 21.9% with 6-10 years experience and 12.5% having 2-5 years' experience.

Feedback from the group reflected that the objectives of the day were clearly defined and met. Overall, 31.7% of participants indicated that the workshop met their expectations, and 68.8% indicated that their expectations were met 'to a great extent'. Questions were posed to participants around potential changes in practice as a result of the workshop and how those changes could be supported for implementation. Responses relating to practice change and implementation were incorporated into participants' action planning document to maintain momentum and facilitate individual, team and cross-sectoral next steps planning. Refer to Appendix "E", Actions and Reflections Chart.

Survey Monkey post-workshop evaluation afforded the opportunity to consolidate both quantitative and qualitative information about the Workshop. A number of suggestions relating to content and format of the day will be considered in future outcome measures workshop planning for the Region. In particular, specific time constraints identified may result in modifications to future workshops (e.g., one patient case study, more time for carousel discussion, etc.). Overall, feedback from the day was very positive:

"The discussion that ensued from the carousel tables was excellent. A great opportunity to network with colleagues and brainstorm solutions to challenges faced by all."

"This was an excellent opportunity to brainstorm with colleagues in various disciplines across the continuum. I found it very useful to be able to build on each others' ideas in a clear, visual way."

"It was interesting and comforting to see that I am not alone in the challenges I experience in the implementation and consistent use of outcome measures."

"It was good to hear from the community people what works and what does not work for them in the home..."

"Excellent overview of outcome measures used in stroke care."

Action Planning and Next Steps

Participants were successful in identifying tools for consistent use across the care continuum in all domains. Planning details are outlined in detail in Appendix "E", and include reflections and action planning as individuals, teams, facilities and/or sectors. Some key objectives arising from the Workshop which align with the SEO Stroke Network 2011-13 Workplan include adoption of the BASDEC as a Regional depression screening tool; adoption of the AlphaFIM Regionally as a rehab triage tool; adoption of the MoCA as a cognitive screening tool and implementation of the STAND Dysphagia screening, while supporting TORBSST use where already established in the Region.

Similar Workshops are now being planned for Lanark (Perth, Smiths Falls) for the Fall of 2011, and for Leeds, Grenville (Brockville) area in early 2012 in support of best practice stroke care across the continuum, particularly relating to facilitating uptake of the best practice recommendations in Outcome Measures use. Appendix "F" attached hereto is a Regional Summary of information gathered to date relating to Outcome Measures used in SEO. Upcoming workshops will feed into this document for a comprehensive Regional summary around best practice implementation in Outcome Measure use.

Appendices

Appendix "A"	-	Outcome Measures Pre-Workshop Survey Results
Appendix "B"	-	Workshop Agenda
Appendix "C"	-	Outcome Measures Use and Interpretation Chart
Appendix "D"	-	Action and Reflections Blank Participant Form
Appendix "E"	-	Action and Reflections Summary Chart
Appendix "F"	-	Summary of OM Used Across SEO Region

Resource Links

- StrokEngine
  http://strokengine.ca – StrokEngine / Assess
- Evidence Based Review of Stroke Rehabilitation
  www.ebrsr.com
- 2010 Canadian Best Practice Recommendations for Stroke Care
  www.strokebestpractices.ca

For Additional Information, please contact:

Caryn Langstaff
Regional Stroke Rehabilitation
Coordinator for SEO
(613) 549-6666 , ext. 6841
langstac@kgh.kari.net

Appendix "A"
Outcome Measures Pre-Workshop Survey Results

KFLA Outcome Measures Workshop

OUTCOME MEASURES USED IN KFL&A								
	ORGANIZATION							
Outcome Measurement Tool	SMOL	CCAC	Kaymar	L&A General Hospital	KGH	BGH	Best Practice OM	Ease of Use 1=easy 5=diff
MOTOR / MOBILITY								
Chedoke-McMaster Stroke Assessment U/E								
Inpatient Rehab	0	0	0	0	0	X	√	3
Complex Continuing Care	0	0	0	0	0	X	√	
Chedoke-McMaster Stroke Assessment L/E								
Inpatient Rehab	0	0	0	0	0	X	√	3
Complex Continuing Care	0	0	0	0	0	X	√	
Modified Ashworth Scale								
Inpatient Rehab	X	0	0	0	0	X	√	1.67
Complex Continuing Care	X	0	0	0	0	X	√	
Chedoke Arm and Hand Activity Inventory (CAHAI)								
Inpatient Rehab	X	0	0	0	0	0	√	4.5
Nine Hole Peg Test								
Community Care	0	0	X	0	0	0	√	2
Timed "Up and Go" Test								
Acute Care	0	0	0	0	X	0	√	2
Inpatient Rehab	X	0	0	0	0	X	√	
Complex Continuing Care	0	0	0	0	0	X	√	
Community Care	0	0	X	0	0	0		
6-Minute Walk Test								
Inpatient Rehab	X	0	0	0	0	0	√	3.25
Complex Continuing Care	0	0	0	0	0	0	√	

Berg Balance Scale								
Acute Care	0	0	0	X	X	0	√	1.2
Inpatient Rehab	X	0	0	0	0	X	√	
Complex Continuing Care	0	0	0	X	0	X	√	
Community Care	0	0	X	0	0	0	√	
COVS - Clinical Outcome Variable Score	X	0	0	X	X	X	x	
Community Balance and Mobility Score	X	0	0	0	0	0	x	
Motor Learning Scale	X	0	0	0	0	0	x	
Pain VAS	X	0	0	0	0	0	x	
Modified Motor Assessment Scale	0	0	0	0	X	0	x	
COGNITION / PERCEPTION								
Montreal Cognitive Assessment (MoCA)								
Acute Care	0	0	0	X	X	0	√	1.2
Complex Continuing Care	0	0	0	X	0	0	√	
Community Care	0	0	X	0	0	0	√	
Five Minute Protocol from the MoCA								
Acute Care	0	0	0	0	X	0	√	1
MMSE+								
Acute Care	0	0	0	X	X	0	√	1
Complex Continuing Care	0	0	0	X	0	0	√	
Community Care	0	0	X	0	0	0	√	
Behavioural Inattention Test								
Inpatient Rehab	X	0	0	0	0	0	√	2.5
Line Bisection								
Acute Care	0	0	0	0	X	0	√	1
Rivermead Perceptual Assessment Battery								
Inpatient Rehab	X	0	0	0	0	0	√	3
Ontario Society OT Perceptual Evaluation - OSOT								
Acute Care	0	0	0	0	X	0	√	2.33
Community Care	0	0	X	0	0	0	√	
Motor-Free Visual Perception Test (MVPT)								
Acute Care	0	0	0	X	X	0	√	2.33
Inpatient Rehab	X	0	0	0	0	0	√	
Complex Continuing Care	0	0	0	X	0	0	√	

Line Bisection Test+								
Acute Care	0	0	0	0	X	0	√	1
PACE - Process and Cognitive Enhancement	X	0	0	0	0	0	x	
Cognitive Assessment of Minnesota (CAM)	0	0	0	X	0	0	x	
Clock Draw Test	0	0	0	X	0	0	x	
Cognitive Competency Test	0	0	0	0	X	0	x	
Rivermead Behaviour Memory Test	X	0	X	0	0	0	x	
Cognitive Linguistic Quick Test							x	
COMMUNICATION								
Boston Diagnostic Aphasia Assessment								
Acute Care	0	0	0	0	X	X	√	2.25
Inpatient Rehab	X	0	0	0	0	X	√	
Community Care	0	0	X	0	0	0	√	
Western Aphasia Battery								
Acute Care	0	0	0	0	X	0	√	
Inpatient Rehab	X	0	0	0	0	0	√	
Community Care	0	0	X	0	0	0	√	
SLP Assessment of Leisure and Recreation	X	0	0	0	0	0	x	
Boston Naming Test	X	0	0	0	0	X	x	
Reading Comprehension Battery for Adults	X	0	0	0	0	X	x	
Frenchay Dysarthria Assessment	X	0	0	0	0	0	x	
Apraxia Battery for Adults	X	0	0	0	0	0	x	
EMOTION								
Brief Assessment Schedule Depression Cards (BASDEC)								
Inpatient Rehab	X	0	0	0	0	0	x	1
Hospital Anxiety and Depression Scale								
not currently in use in KFL&A							√	

FUNCTIONAL INDEPENDENCE / ADL								
Functional Independence Measure (FIM)								
Inpatient Rehab	X	0	0	0	0	0	√	3.17
Complex Continuing Care	0	0	0	0	0	0	√	
AlphaFIM	0	0	0	0	X	0	x	
Leisurescope Plus	X	0	0	0	0	0	x	
Leisure Competence Measure	X	0	0	0	0	0	x	
Leisure Satisfaction Measure	X	0	0	0	0	0	x	
DYSPHAGIA								
Dysphagia Screening - STAND								
Acute Care	0	0	0	0	X	0	√	2
Dysphagia Screening - TORBSST								
Acute Care	0	0	0	X	0	0	√	3.33
Complex Continuing Care	0	0	0	X	0	0	√	
Bedside Evaluation of Dysphagia	0	0	0	X	0	0	x	
GENERAL MEASURES OF STROKE SEVERITY								
NIH Stroke Scale	0	0	0	**0**	X	0	√	
Canadian Neurological Scale (CNS)	0	0	0	**0**	X	0	√	
Glasgow Coma Scale	0	0	0	**0**	X	0	x	

STROKE NETWORK *of* Southeastern Ontario

Appendix "B"

Interprofessional Outcome Measures Across the Continuum of Stroke Care in KFL&A

Wednesday, March 9, 2011
Donald Gordon Centre, Kingston

Time	Topic	Presenters
1145 -1230	***Lunch & Registration***	
1230 -1235	**Introduction**	Sue Saulnier
1235 -1250	**Provincial Best Practice Outcome Measures**	Dr Stephen Bagg
1250 -1300	**A Focus on Outcome Measures used in KFL&A**	Caryn Langstaff
1300 -1345	**Outcome Measures Used Across the Continuum of Care in KFL&A – Case Studies**	Darlene Bowman, Katie Higgins, Mary Jo Demers, Jodie Muller, Audrey Brown, Darlene Amirault & Al MacVicar
1345 -1430	**Tools of Interest: New Learning** **Depression Screening Tools**: *(10 min)* o Hospital Anxiety & Depression Scale (HADS) o Brief Assessment Schedule Depression Cards (BASDEC) **Motor Function Tools:** o Chedoke Arm and Hand Activity Inventory (CAHAI) *(5 min)* o Chedoke-McMaster U-E / L-E Stroke Assessment *(10 min)* **Language Screening Tool**: Frenchay Aphasia Screen *(5 min)* **Functional Independence:** o FIM (5min) o Alpha FIM (5min) o InterRAI (5 min)	Dr. Mary Lou Nolte Cally Martin Mary Jo Demers Audrey Brown Cally Martin " Pauline Devette Jo Mather
1430 -1450	**Break** *(20 min)*	

1450 – 1555	**Focus Groups – Carousel Table Discussions** Cross-sectoral, interprofessional groups Rotation through 3 out of 6 domain-specific tables listed below **Reflection Questions:** ➢ Which tools best guide your interventions? ➢ What tools would best facilitate interprofessional and cross-sectoral collaboration? **Action Questions:** ➢ Are there tools you would like to consider incorporating into practice? ➢ Are there tools you would recommend within KFLA for consistent use across sectors and/or within teams? ➢ How can we facilitate use of these outcome measures? (e.g., communication/common language/documentation)	
	Functional Independence ➢ Functional Independence Measure – (FIM & Alpha-FIM) ➢ InterRAI	
	Motor / Mobility ➢ BERG Balance Scale ➢ Timed "Up and Go" Test ➢ Chedoke Arm and Hand Activity Inventory (CAHAI) ➢ Chedoke-McMaster U-E / L-E Stroke Assessment (CMSA) ➢ Clinical Outcomes Variables Scale (COVS)	
	Cognition / Perception ➢ Montreal Cognitive Assessment (MoCA) ➢ Mini-mental State Exam (MMSE) ➢ Motor-free Visual Perception Test (MVPT) ➢ Ontario Society of Occupational Therapists Perceptual/Evaluation Kit (OSOT)	
	Communication ➢ Boston Diagnostic Aphasia Examination (BDAE) ➢ BDAE Short Form ➢ Western Aphasia Battery Test (WAB) ➢ Frenchay Aphasia Screening Test	
	Emotion ➢ Brief Assessment Schedule Depression Cards (BASDEC) ➢ Hospital Anxiety and Depression Scale (HADS)	
	Dysphagia ➢ Screening Tool for Acute Neurological Dysphagia (STAND) ➢ Toronto Bedside Swallowing Screening Test (TOR-BSST)	
1555 -1630	***Reflection and Action Planning*** **Report back** 1. Are there consistent tools? 2. Are there some next steps for use of any of these outcome measurement tools? **Actions** ➢ Personal, Team, Across Sectors	Sue Saulnier Caryn Langstaff Cally Martin

Appendix "C"
Outcome Measures – Use and Interpretation Chart

KFLA Outcome Measures Workshop			
KFLA Outcome Measures -- Measurement, Clinical Use and Interpretation			
Outcome Measurement Tool	**Items Measured**	**KFLA Survey on Clinical Use Comments**	**Score Interpretation**
MOTOR			
Best Practice Recommended			
Modified Ashworth Scale	Spasticity	Easy to administer; subjective; no specialized equipment; brief Ax	Scale 0-4 - 0=no increase tone; 4=rigid in flexion or extension
Chedoke-McMaster Stroke Assessment U/E	Upper extremity motor impairment	Significant time to administer; may not be directly related to treatment	Scale 1-7 - 1=flaccid paralysis; 7=normal
Chedoke-McMaster Stroke Assessment L/E	Lower extremity motor impairment	May not be directly related to treatment	Scale 1-7 - 1=flaccid paralysis; 7=normal
Chedoke Arm and Hand Activity Inventory (CAHAI)	arm and hand function/ability	Very informative to real life hand-arm activities; significant materials and time required; best for higher functioning patients	7 point quantitative scale- 1=total assist; 7=complete independence; Version 7 max score 49 (7 elements); Version 8 max score 56 (8 elements); Version 9 max score 63 (9 elements) Version 13 max score 91 (13elements)
Nine Hole Peg Test	arm and hand function/ability - fine manual dexterity	quick and easy; norms for age, gender and hand dominance, susceptible to practice effects	timed - lower scores = better fine manual dexterity

Timed "Up and Go" Test	Mobility and balance relative to walking and turning	quick and easy; no special equipment or training; objective and sensitive to change over time; not suitable for cognitively impaired	timed - lower scores better
6-Minute Walk Test	Mobility and exercise tolerance	Easy to use	distance measure - greater distance denotes better performance; duration of rests measured
Berg Balance Scale	Balance - static and dynamic	Easy to use; minimal space and equipment requirements	Scores of less than 45 out of 56 indicative of balance impairment
Others In Use			
COVS - Clinical Outcome Variable Score	General functional mobility	Easy to use, 20 mins. to administer	Score range 13-91 - higher score denotes greater mobility and function
Community Balance and Mobility Score	high level functional mobility and balance		
Motor Assessment Scale (Motor Learning	every day motor function	brief and simple; performance based	Overall score out of 48; performance criterion 0-6 0=simple; 6=complex; tonus 4=optimal - greater or less indicative of hypertonus or hypotonus
Pain Visual Analogue Scale	pain scale		
COGNITION / PERCEPTION			
Best Practice Recommended			
Montreal Cognitive Assessment (MoCA)	Cognitive Screening	Fast, easy, sensitive; stroke friendly; detects mild forms of impairment; and impairments in executive functions	total score 30; 26 or less denotes screen failure; +1 score for education <grade 12
Five Minute Protocol from the MoCA	Cognitive Screening	Fast, easy, sensitive; stroke friendly;	

Mini Mental Screening Exam (MMSE)	Cognitive Screening	Fast, easy, not as stroke specific; not sensitive to mild or severe impairments; records cognitive changes over time	Total score 30; 23 or less indicative of presence of cognitive impairment; levels of impairment 24-30=none; 18-24=mild; 0-17=severe
Behavioural Inattention Test	inattention; unilateral visual neglect	Easy to administer; 40 mins; good re-test reliability; only deals with personal space and only identifies significant inattention; too time intensive for acute setting	Total score 227, with higher scores indicative of greater neglect - neglect indicated at 196 cutoff or greater
Line Bisection	Unilateral spatial neglect, inattention	Quick and easy; only picks up neglect in personal space; could be difficult if dominant hand affected; screening only, as neglect may be indicative of other syndromes such as hemianopia	Deviation of 6mm or more indicative of unilateral spatial neglect; or patient omits two or more lines on one half of the page
Rivermead Perceptual Assessment Battery	Perception	Long time to administer; good for patients with aphasia	
Ontario Society OT Perceptual Evaluation - OSOT	Perception	Harder and > 1hr to administer; assesses perceptual dysfunction in areas related to basic living skills; evaluates degree of impairment, monitors change and treatment effects	Standardized for use with individuals aged 40-69 years
Motor-Free Visual Perception Test (MVPT)	Visual perceptual screen, concentration, memory, good for patients with Aphasia	Easy and quick; flip chart and point, difficult for acute population; well-tolerated generally	Score out of 36; cutoff 30; poor MVPT scores predictive of poor driving outcome

Others In Use			
Cognitive Assessment of Minnesota (CAM)	Memory, concentration	Easy/difficult, one hour to administer	
Clock Draw Test	Visuospatial and praxis abilities; may detect deficits in attention and executive functioning	Easy and quick - 1-2 mins; screening only; good supplement to other cognitive evaluation	Evaluates errors, omissions and distortions; Poor performance correlates highly with poor performance on other cognitive screens
Cognitive Competency Test			
Rivermead Behaviour Memory Test			
Cognitive Linguistic Quick Test	Stroke and brain injury	Easy to administer	
PACE - Process and Cognitive Enhancement			
COMMUNICATION			
Best Practice Recommended			
Boston Diagnostic Aphasia Assessment	Auditory and reading comprehension; verbal and written expression; to diagnose aphasia; evaluates various perceptual modalities (auditory, visual, and gestural), processing functions (comprehension, analysis, problem-solving) and response modalities (writing, articulation, and manipulation)	Used in rehab; thorough; time consuming too intensive for acute; short form version quick and accurate and easy to interpret; 30-45 mins to administer	Percentiles; percentages; standard scores M=100, range 85-115, within normal limits
Frenchay Aphasia Screening Test (FAST)	Aphasia screening tool for non-SLPs	Screening for the presence of expressive or receptive aphasia by non-SLP.	Pass/fail screen. If fail, refer to SLP for Assessment
Western Aphasia Battery	Auditory and reading comprehension; verbal and written expression	Often used in acute; assesses functional language; severe supported by objects as well as pictures	Criterion cut off scores based on identified quotients

Others In Use			
Boston Naming Test	Anomia - evaluates word finding and vocabulary	Easy and quick to administer; supplemental test to BDAE	percentage correct score; total score out of 60
Reading Comprehension Battery for Adults	Reading comprehension	Adult Assessment; 30 mins to administer; 20 subtests; facilitate intervention direction	
Frenchay Dysarthria Assessment	Speech intelligibility; oral motor weakness	short, easy assessment; good inter-rater reliability	
Apraxia Battery for Adults	Presence and severity of apraxia of speech	easy to administer	
SLP Assessment of Leisure and Recreation			
EMOTION			
Best Practice Recommended			
Hospital Anxiety/Depression Scale (HADS)	Depression and anxiety	easy to administer; fast; no formal training required; based on self-report; correlates with Beck Depression Inventory	Total score 42, higher scores indicate greater anxiety and depression; 14 items each valued at 0-3; 0=absent, 3=extreme presence.
Others In Use			
Brief Assessment Schedule Depression Cards (BASDEC)	Depression; good for patients with Aphasia	Easy to score; accurate; quick	Pass/fail screen.
FUNCTIONAL INDEPENDENCE / ADL			
Best Practice Recommended			
Functional Independence Measure (FIM)	Functional independence; all domains; physical and cognitive disability in terms of burden of care	Well studied for validity and reliability; training and education required	Summed score of 18-126 with 18 being total dependence and 126 total independence
Others In Use			
AlphaFIM	Functional independence	Disability and functional status assessment in the acute setting	Abbreviated FIM - 6 items - eating, Grooming, Bowel Management, Transfers: Toilet, Expression, and Memory

Inter RAI	Functional independence; all domains	Community assessment to prevent or stabilize early health or functional decline	Assesses 12 domains
DYSPHAGIA			
Best Practice Recommended			
Dysphagia Screening - TORBSST	Dysphagia screening tool	Fast, easy to administer; screens for safety and efficiency of swallow; requires SLP to train users	Pass / Fail screen. If fail, refer to SLP
Dysphagia Screening - STAND	Dysphagia screening tool	Fast, easy to administer; screens for safety and efficiency of swallow; allows for train the trainer model	Pass / Fail screen. If fail, refer to SLP
Others In Use			Pass / Fail screen. If fail, refer to SLP
Bedside Evaluation of Dysphagia (BED)	Dysphagia Clinical Assessment	SLP Assessment tool; evaluations non-physiological, oral mechanism and oral-pharyngeal dysphagia symptoms with food and liquid trials	SLP clinical assessment; validity maximized when paired with instrumental assessment VFSS
MEASURES OF STROKE SEVERITY			
Best Practice Recommended			
Canadian Neurological Scale (CNS)	Evaluates mentation (LOC, orientation and speech) and motor function (face, arm, leg)	short, simple to use; can be used to monitor change and predict patient outcomes	Scores from each section summed. Total 11.5, with lower scores indicative of greater neurological deficit
NIH Stroke Scale	Measures severity of symptoms post-stroke, quantifying neurological deficit	quick and simple; standardized training procedure required	Total scores range from 0-42 with higher scores reflecting greater severity; stratified as >25=very severe; 15-24=severe; 5-14=mild to moderate; 1-5=mild impairment

Others In Use			
Glascow Coma Scale	Depth or duration of impaired consciousness or coma; measures motor responsiveness; verbal performance and eye opening	used for patients with reduced LOC	
COMMUNITY REINTEGRATION			
Leisurescope Plus	Measures patient's areas of high interest; emotional motivation for participation; and need for high arousal experiences (risks)	quick and easy to administer; 45 visual comparisons	
Leisure Competence Measure	Measures leisure awareness, attitude, cultural/social behaviours, interpersonal skills, community reintegration skills, social contact, community participation	201 page manual; used as screening and/or as full standardized assessment for goal setting and objective measure of change over time	
Leisure Satisfaction Measure	Patient satisfaction level with leisure activities	Assist in establishing goals to maximize patient participation in leisure activities	

Appendix "D"
Actions and Reflections – Participant Form
My Interprofessional Outcome Measures
Record Sheet

Reflections • **Which tools best guide your interventions?** • **What tools would best facilitate interprofessional and cross-sectoral collaboration?**	**Actions** • **Are there tools you would like to consider incorporating into practice?** • **Are there tools you would recommend within KFL&A for consistent use across sectors and/or within teams?** • **How can we facilitate use of these outcome measures? (eg. communication, common language)**
Functional Independence	
Motor/Mobility	
Cognition/Perception	
Communication	
Emotion	
Dysphagia	
Other	

Action Plan

Personal	Team	Cross-Sectoral
Functional Independence		
Motor/Mobility		
Cognition/Perception		
Communication		
Emotion		
Dysphagia		
Other		

Appendix "E"
Actions and Reflections - Next Steps: KFL&A Outcome Measures
KFL&A Interprofessional Outcome Measures Workshop
Reflections and Action Planning – March 9, 2011

	REFLECTION	ACTION
Functional Independence	➢ FIM – mandated tool in rehab, group interest in understanding ➢ Not mandated for use in the community ➢ FIM completed both at admission and at discharge in rehab settings ➢ Specific training and testing required to use all three tools ➢ InterRAI, group interest in more knowledge around this tool	**Consistent Tools** ➢ AlphaFIM (acute) ➢ FIM (rehab) ➢ InterRAI (community) **Personal Actions** ➢ Maintain awareness of various measures used across the continuum and how they relate to my setting ➢ Become trained in AlphaFIM using online training module (Brockville, L&A) ➢ Provide information about the use of the RAI-HC **Team Actions** ➢ Training on AlphaFIM (Brockville, L&A) ➢ Interpret and use AlphaFIM scores in discharge disposition planning ➢ Increase caregiver and Social Worker involvement **Action Across Sectors** ➢ Investigate whether score correlations between RAI and FIM exist for cross sectoral communication and understanding of functional status ➢ Improve flow and timing of information shared across sectors ➢ Share InterRAI scores with hospital when existing home care clients admitted to hospital

	REFLECTION	ACTION
Mobility	➢ Community therapy group interested in BERG, as useful in community and shows changes from rehab, easy to use ➢ CAHAI looks useful and relevant to home setting, no training required ➢ TUG relevant and sensitive to change in community; useful at discharge from rehab for higher functioning clients ➢ TUG useful to predict need for walking and mobility aids and to predict fall risk ➢ Query whether there is a predictive TUG time associated with need for mobility aids (14 seconds?) ➢ Group liked COVS, as it measures all aspects of mobility and predictive of functional walking ➢ Pace and endurance harder to measure in community, due to variable settings, space and terrains ➢ Value in BERG score interpretations (e.g., 4 or less out of 56 ⏭ less likely to walk at one month) ➢ Chedoke CMSA - U/E can be done quite easily in the home – not a lot of equipment and helps guide interventions ➢ Importance of using the same language across disciplines and across sectors to communicate re function ➢ Helpful to nursing to understand how a person is doing (e.g., are they safe to walk?) ➢ Predicting safety issues and care needs (discussing with nurses and Case Manager)	**Consistent Tools** ➢ BERG ➢ TUG ➢ COVS ➢ CAHAI **Personal Actions** ➢ Trial CAHAI, as no formal training required (community and hospital OT and PT therapists) ➢ Improve sharing results with team members, including direct, rounds, progress notes, etc. ➢ Consider CMSA in practice ➢ Designate time for reassessment (pre-post treatment) for objective measure of functional change ➢ Attempt to implement COVS in my practice ➢ Consider use of BERG / TUG as appropriate **Team Actions** ➢ Teams desire to use OM tools more consistently ➢ Simple, fast tools in community, such as BERG, TUG ➢ Pilot COVS at Brockville and KGH (get scoring tool guide to teams) ➢ Continue using OMs in rounds at SMOL and do more education on measures ➢ Increase interprofessional collaboration by connecting nursing and community therapists **Action Across Sectors** ➢ Plan a 'Lunch and Learn' on the CAHAI, as both community and rehab would like to pilot ➢ Increase interprofessional collaboration by connecting hospital and community therapists ➢ Opportunities for collaboration across sectors discussing

	REFLECTION	ACTION
		scores/measures used with local community ➢ Refining Hospital to Community communication linkages via: ➢ Knowing who Case Manager is in order to ask for copy of discharge summary ➢ Community therapists having timely access to hospital discharge summaries (even where discharge summaries are completed, they are not getting to community therapists) ➢ Use Discharge Link Meeting to report outcome measures, include all involved disciplines ➢ Community use of hospital Discharge Report for treatment continuity and avoid repeating assessment (e.g., Berg may not need to be repeated on admit to community if just done on discharge from rehab)
Cognition / Perception	➢ Interest in Line Bisection – group querying where it is best used ➢ Group expressed interest in MoCA ➢ Executive function screen for MoCA stronger than MMSE, and more sensitive to stroke ➢ Facilitating practice change may require starting with 5-10 new admissions ➢ InterRAI – triggers deeper investigation of cognitive needs in home care setting ➢ Query an in-depth cognitive assessment versus screening as approved by Consensus Panel. Both MVPT and OSOT are best practice recommended for perceptual testing ➢ "I have a better understanding of the outcome measures needed for referral transfer to SMOL" ➢ Challenges noted regarding repeating outcome measures prior to discharge re time constraints and prioritizing treatment	**Consistent Tools** ➢ MoCA ➢ InterRai (triggers deeper investigation in home care setting) ➢ Line Bisection (possibly) ➢ MVPT and OSOT (currently used and represent the 'comprehensive' cognitive-perceptual assessment vs. screening) **Personal Actions** ➢ Change practice by trial – begin with 5-10 new admissions to trial OM administration ➢ OT personal reflection to learn how to administer MoCA ➢ Designate time for reassessment (pre-post treatment) for objective measure of functional change ➢ Improve sharing results with team members, including direct, rounds, progress notes, etc.

	REFLECTION	ACTION
	➢ Can community therapists attend at rehab discharge conference to hear OM and function status of patient ➢ In Community, if hospital reports are delayed, community OT/PT needs to reassess - duplication of service, re-test reliability issues, cost issues reflective of current system	**Team Actions** ➢ RPN Education re MoCA as OT uses, so want greater understanding of implications for patient (L&A) ➢ Team discussions – informal interprofessional in-services about a colleague's tool not of your discipline, as OM results impact and frame other disciplines' practice ➢ Pair OM quantitative results with qualitative functional status and implications for patient ➢ Consider Rivermead Behaviour Memory Test (RBMT) for memory testing for all clients in community **Action Across Sectors** ➢ Consider further education re Line Bisection for possible implementation in appropriate sectors ➢ Improve communication around OM currently in use across sectors (MVPT, OSOT, MoCA)
Communication	➢ The BDAE and WAB are similar comprehensive language assessments – use based on SLP preferences – BDAE often in rehab, WAB often for more severe patients (objects available) ➢ It was noted that the "Cookie Jar" expressive language screen is contained in both the WAB and in NIHSS. Value in understanding norms for those using NIHSS ➢ Assessment critical to knowledge of language status, particularly for hidden deficits, such as receptive language ➢ Assists other disciplines in understanding patient and how to communicate, and clarifies behaviour (confusion vs comprehension) ➢ Interest by the group in the Frenchay Aphasia	**Consistent Tools** ➢ BDAE ➢ WAB ➢ FAST (Frenchay Aphasia Screening Test) **Personal Actions** ➢ Use communication strategies and SLP tools to improve communication access based on patients functional language status **Team Actions** ➢ Consider a global language screen at acute level for stroke patients (KGH, L&A), e.g., FAST ➢ Cross-discipline training (e.g., OT to SLP) regarding visual neglect when conducting comprehensive language evaluation

	REFLECTION	ACTION
	Screening Test (FAST), particularly in detecting receptive oral language issues ➢ A best practice language <u>screen</u> is objective evidence for physician for SLP referral	➢ Increase knowledge across disciplines ➢ Improve communication between OT/PT/SLP ➢ Use of Communication kits at L&A when language deficits identified ➢ Improve team communication by SLP pairing patient's scores to their functional status ➢ Completion of a language screen in transition planning (e.g., CCAC manager in transition planning from acute - D/C planner) ➢ Consider training non-SLPs in the community on a language screening tool where suspect language decline or deficit **Action Across Sectors** ➢ In reporting (verbal and written) SLP to link OM scores with level of severity - functional status ➢ Improve consistency across sectors in reporting and communication
Emotion	➢ The group showed an interest in the BASDEC tool and discussed the following about BASDEC: ➢ Format of the BASDEC does not breach confidentiality as patient does not need to verbalize ➢ Sensitive to signs of depression at early stage and later in recovery ➢ Test supports 'anecdotal' dialogue for assessing treatment needs, allows for elaboration by patient ➢ Can be administered by various disciplines, with very limited training ➢ Can be used for both survivor and spouse/caregiver ➢ The group showed an interest in HADS	**Consistent Tools** ➢ BASDEC ➢ HADS **Personal Actions** ➢ Consider emotional state of patient and changes over time during recovery ➢ Watch for need to refer ➢ Consider using BASDEC in the community ➢ Introduce other team members to Psychology's cognitive assessment protocol ➢ Explore feasibility of incorporating new outcome measures (e.g., HADS, BASDEC) into practice of therapists **Team Actions**

	REFLECTION	ACTION
	➢ Need to consider behavioural assessment for depression where language or cognitive deficits exist ➢ Query when depression screenings should occur or be repeated; requires rapport/trust ➢ How does one handle conflicting responses of patient and caregiver re emotional state ➢ Responses – reflection of condition or "depression" ; Considerations of onset timing, administration setting; ➢ Respect limitations of depression screening and need for referral where failed screening	➢ Education of interprofessional teams relating to BASDEC **Action Across Sectors** ➢ Follow-up with Consensus Panel to reevaluate BASDEC for best practice OM consideration ➢ Consider BASDEC for use as consistent depression screen by various disciplines within teams and across sectors ➢ Opportunity for interprofessional collaboration ➢ Support referral process to SW/Psychologist etc using objective OM especially only one discipline observing the patient ➢ Investigate options for behaviour assessment for depression where cognitive or language deficits exist
Dysphagia	➢ TOR-BSST© used at L&A and STAND at KGH ➢ Both seem user-friendly, STAND less costly and more sustainable ➢ Issues of sustainability, especially relative to resources and staff turnover ➢ Standardized screen improves physician awareness as to patients' swallowing status and needs ➢ Recognize that a dysphagia screening process, once in place, reduces workload later ➢ Need to consider dysphagia screening as a patient safety tool ➢ Need to have buy-in of staff and facilities, safety, best practice, reduction in health care costs, demonstrated improved outcomes ➢ Requires a Champion, e.g., charge RN for training – train the trainer model with return demonstrations for maintained competency ➢ Education sessions of the STAND and TOR-BSST	**Consistent Tools** ➢ TORBSST ➢ STAND **Personal Actions** ➢ Become informed about relevant screening tools ➢ Use a bedside dysphagia screening tool **Team Actions** ➢ Global screening for dysphagia in all facilities at the acute stage for stroke patients (KGH, L&A, Brockville) ➢ Education to increase physician awareness **Action Across Sectors** ➢ Dysphagia screening should extend into rehab setting to protect for changes in patients' swallowing status. ➢ Dysphagia screening should extend into community setting to protect for changes in patients' swallowing status and in consideration of unrestricted food environment and patient

	REFLECTION	ACTION
	have increased knowledge with a deeper understand and respect of what dysphagia is and implications for patient ➢ Both tools would work in the community, but recognize issues of sustainability and maintaining competency ➢ A Dysphagia Screening tool in the community provides an objective measure to assist Case Managers around required SLP referrals.	function in the home setting
General Comments		➢ Read and understand outcome measures used by other disciplines and utilize what the results mean ➢ Improve Communication within and across teams, e.g., rounds, progress notes, contact team members via voice mail ➢ Communicate both score results and functional interpretation ➢ Help plan education opportunities with nursing staff regarding allied health outcome measures; interprofessional collaborative education ➢ Ensure admission and discharge outcome measures completed for objective measure of functional change ➢ Improve patient quality of life ➢ Decrease length of stay ➢ Receive discharge summaries prior to first visit in community ➢ More inservices within work setting around consistent use of outcome measures ➢ Share outcome measures score and functional status interpretation AND date of results ➢ Ensure at least one outcome measure on file prior to discharge or indication as to why measure not completed ➢ Include therapists' contact information on CCAC referral form to enable community-hospital therapist dialogue

Appendix "F"
Summary of Outcome Measures Used to Date Across the Southeast Ontario Region March 30, 2011

Outcome Measure	HPE	KFL&A	L&G	Lanark
Functional Independence				
AlphaFIM	In Use	In Use (K) In Progress (L&A)	In Progress	In Progress
FIM	In Use	In Use	In Use	In Use
InterRAI	In Use	In Use	In Use	In Use
Motor/Mobility				
BERG	In Use	In Use	In Use	In Use
TUG	In Use	In Use	In Use	In Use
CAHAI	---	In Progress	In Progress	tbd
Pain				
VAS (Visual Analogue Scale)	In Use	In Use	In Use	tbd
Cognitive/Perceptual				
MoCA	In Use	In Use	In Progress In Use at SPC	tbd
Line Bisection	tbd	In Use	tbd	tbd
MVPT	In Use	In Use	In Use	In Use
OSOT	In Use	In Use	tbd	tbd
MMSE	In Use	In Use	In Use	In Use
COPM	In Use	In Use	tbd	tbd
Communication				
BDAE	In Use	In Use	In Use	tbd
WAB	In Use	In Use	tbd	tbd
FAST	In Progress	In Progress	In Progress	tbd
Emotion				
HADS	---	In Use	---	---
Dysphagia				
STAND	In Use	In Use (K)	In Progress	In Progress
TORBSST	---	In Use (L&A)	---	---
Tools In Use (Not on Canadian Recommended List)				
BASDEC	In Use	In Use	In Progress	In Use
COVS	---	In Use	In Use	tbd
TEA (Test Everyday Attention	In Use	---	tbd	tbd

Note: Regional Workplan Objectives also include supporting Regional implementation and use of:

- BASDEC for depression screening
- MoCA for cognitive screening
- AlphaFIM for rehab triage
- STAND for dysphagia screening (and ongoing support for TORBSST where already in use)