Stroke Rehabilitation Comes Home for Albertans

Momentum and Milestones Symposium

Alberta Provincial Stroke Strategy

January 21, 2011

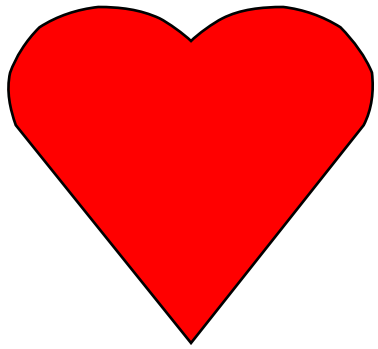
Edmonton, Alberta

Luchie Swinton
Provincial Stroke Rehabilitation Lead


WELCOME

Outline

- Stroke rehabilitation across the continuum
- The place and value of ESD
- How is ESD working in Alberta
- The benefits of an integrated approach

I   Rehab

Stroke rehab – the untapped potential

Recommended "treatment"	Accreditation Canada Threshold	Alberta Performance* 2007-08
tPa administration	7%	11.3%
Acute Stroke Unit Care	≥75%	40%
Proportion of patients discharged to IP Stroke Rehab	15%	24% (Calgary only, 07-08)
Proportion of patients referred to outpatient rehab	NA	<10%

* (Jeerakathil, Burridge, Thompson, Fang, & Hill, 2010)

Stroke rehab – the untapped potential

- Almost all stroke survivors are unable to return to “living” without rehabilitation (Tellier & Rochette, 2009)
- In-hospital rehabilitation not always required
- No data or benchmarks re: outpatient rehabilitation

Early Supported Discharge (ESD)

- ESD in stroke
- Objective of ESD – early, intensive rehabilitation by a stroke-specific team in client's home
- ESD team members
  - Rehab professionals (OT, PT, RecT, SLP and TAs)
  - SW
  - RN
- ESD models

Evidence for Early Supported Discharge

Articles

The Lancet, Volume 365, Issue 9458, Pages 501 - 506, 5 February 2005

<Previous Article | Next Article>

doi:10.1016/S0140-6736(05)17868-4Cite or Link Using DOI

Early supported discharge services for stroke patients: a meta-analysis of individual patients' data

Prof Peter Langhorne PhD [a] , Gillian Taylor MSc [b], Prof Gordon Murray PhD [c], Prof Martin Dennis MD [d], Prof Craig Anderson PhD [e], Erik Bautz-Holter MD [f], Paola Dey PhD [g], Prof Bent Indredavik MD [h], Nancy Mayo PhD [i], Michael Power PhD [j], Helen Rodgers PhD [k], Ole Morten Ronning MD [l], Anthony Rudd FRCP [m], Nijasri Suwanwela MD [n], Lotta Widen-Holmqvist PhD [o], Prof Charles Wolfe MD [p]

Early discharge hospital at home (Review)

Shepperd S, Doll H, Broad J, Gladman J, Iliffe S, Langhorne P, Richards S, Martin F, Harris R

THE COCHRANE COLLABORATION®

This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2010, Issue 3

http://www.thecochranelibrary.com

Grand Rounds

Elliot J. Roth, MD, Editor

Falling Through the Cracks: A Literature Review to Understand the Reality of Mild Stroke Survivors

Myriam Tellier, BSc,[1] and Annie Rochette, PhD [1,2]

[1]Centre for Interdisciplinary Research in Rehabilitation of Greater Montreal, Québec, Canada; [2]School of Rehabilitation, Faculty of Medicine, University of Montreal, Québec, Canada

Purpose: To review the existing literature on mild stroke, its consequences for patients and families, and the effectiveness of rehabilitation services targeting mild stroke. **Method:** A systematic search was conducted on Ovid (EMBASE and MEDLINE, 1950–2008), PubMed, CINAHL, and Cochrane (to 4th quarter 2008). Articles had to be written in French or English. The term "mild stroke" was combined with a variety of key words. Titles, abstracts, and results sections were screened, and the sample had to be composed of >50% mild stroke. Two reviewers were involved in the selection process to ensure the research was reproducible and that all the literature was screened properly. **Results:** Thirteen articles meeting inclusion and exclusion criteria were found. Mild stroke survivors may present impairments that do not interfere with basic activities of daily living but do affect performance of complex tasks. The consequences for families remain unknown. Home interventions were found to help patients maximize their functions and reduce stroke sequelae. **Conclusion:** The majority of mild stroke survivors are sent home without referral to rehabilitation services although they present deficits that, if not addressed, can lead to deconditioning and impede community reengagement. The impact of mild stroke on families needs to be studied. **Key words:** *families, impairments, mild stroke, participation, rehabilitation, review*

A Randomized Controlled Trial of Early Supported Discharge and Continued Rehabilitation at Home After Stroke

Five-Year Follow-Up of Patient Outcome

Ann-Mari Thorsén, RPT, BSc; Lotta Widén Holmqvist, RPT, PhD; Jesús de Pedro-Cuesta, MD, PhD; Lena von Koch, RPT, PhD

Evidence for Early Supported Discharge

1. Langhorne et al, 2005; Shepperd et al, 2010
   - Outcomes for ESD comparable to inpatient rehab
   - Reduce LOS in hospital by 8-15 days
   - No difference in: functional status, QOL, caregiver burden, psychol. well-being at 6 mos., costs
   - Better outcomes: patient satisfaction, more at home at 6 mos.
2. Van Horne et al, 5 year follow-up study (2005)
   - IADLs better in ESD group at 5 years post-stroke
   - Patients receiving ESD doing more at home (household tasks)

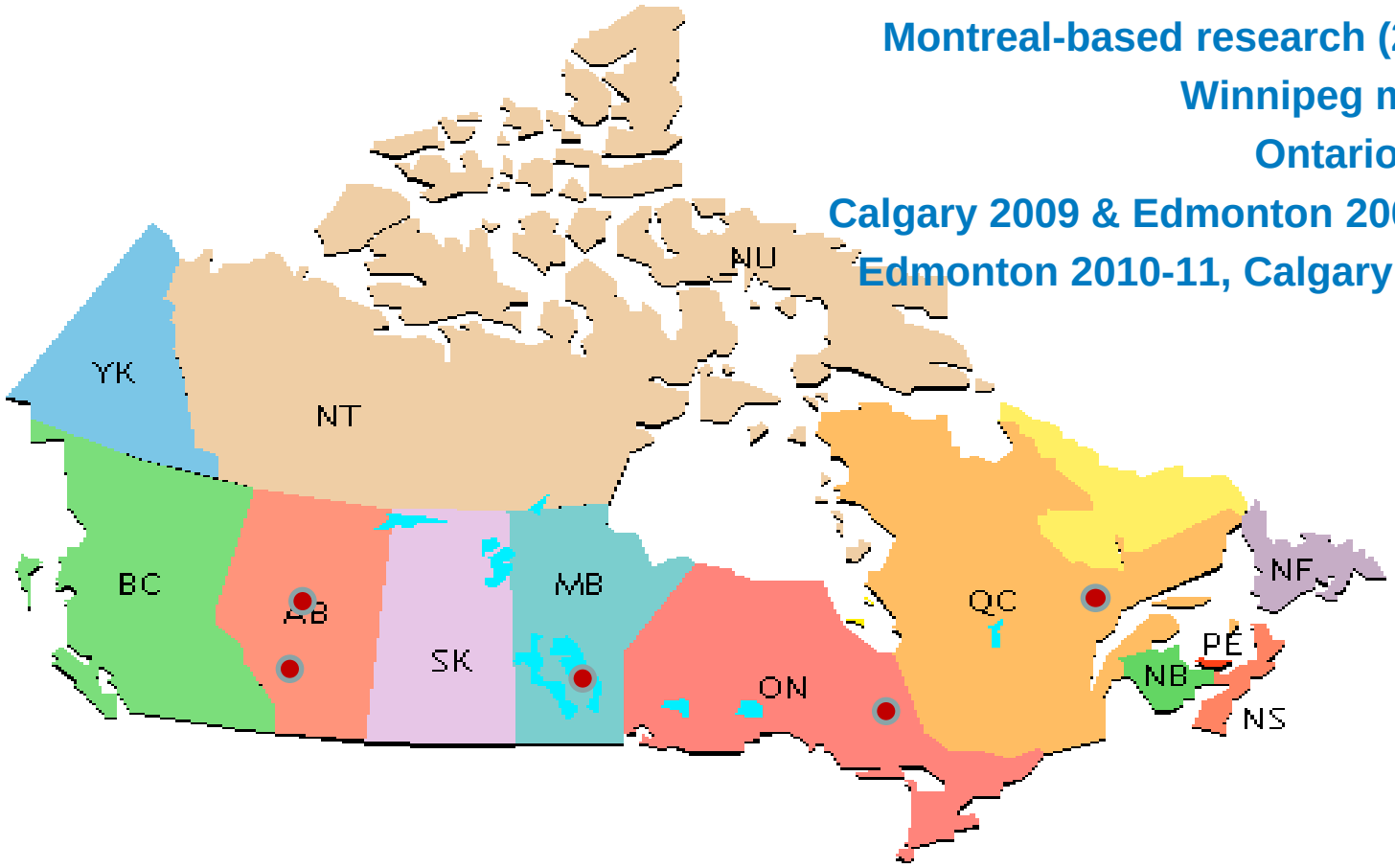
Evidence for ESD: Why does it work?

1. von Koch et al, 2005
   - Client is **less passive**, **more forthcoming** about goals of therapy, client **more directive** regarding his/her own care
2. Evidence-Based Review of Stroke Rehabilitation (EBRSR)

(http://www.ebrsr.com/reviews_list.php)

   - Emphasizes the need for an enriched environment as a setting for stroke rehab – a more realistic setting, more challenging activities
3. Tellier & Rochette, 2009
   - Majority of stroke survivors need rehab, but not necessarily provided in-hospital

ESD in Canadian landscape



Montreal-based research (2006)

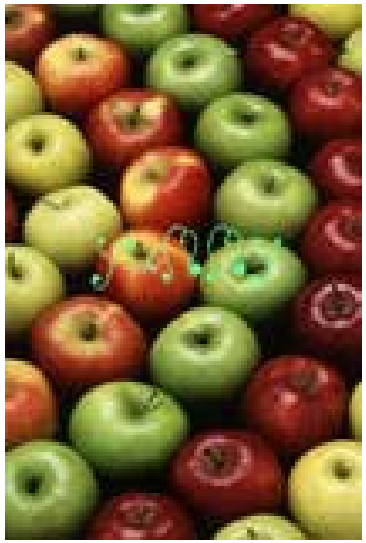
Winnipeg model

Ontario ESD

Calgary 2009 & Edmonton 2009-10

Edmonton 2010-11, Calgary 2011

Caveat to comparisons



Alberta outcomes - demographics

Characteristic	Edmonton (n=101)	Calgary (n=97)
Gender	55% males	43% male
Age – Range	18 -94 years	33 – 98 years
Median Age	70 years	70 years
Home Care patient at admission	60%	4%
ESD client only	40%	96%

Alberta process measures

	Edmonton	Calgary
Hospital DC to receipt of ESD referral	n = 68 Median: 20 days Range: 0 – 120 days Same day receipt: 35%	n = 95 Median: -1 day Range: -21 – 18 days Receipt before hosp. DC: 60%
Referral to first ESD visit	n = 96 Range: 2 – 31 days 5 days wait: 46% 7 days wait: 78%	n = 95 Range: 0 – 24 days, Med: 6d 5 days wait: 11% DC to first visit - Median: 3 d Range: (-4) – 24 days
ESD LOS	n = 97 Median: 44 days Range: 8 – 63 days	n = 88 Median: 45 days Range: 8 - 97 days

Alberta client outcomes

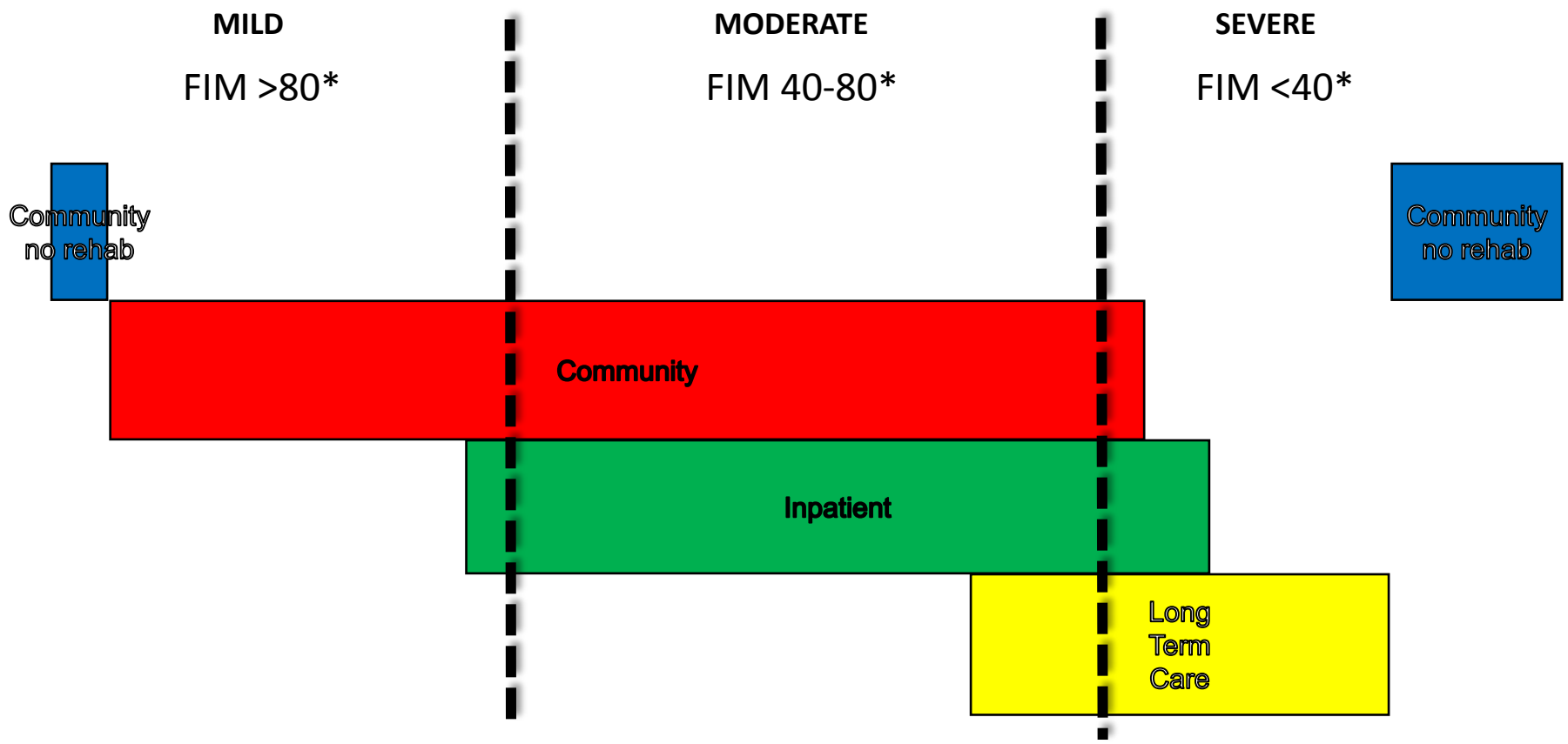
	Edmonton	Calgary
% demonstrating clinically important change in COPM	n = 94 Performance scores: 72% Satisfaction scores: 71%	Perf scores (n=81): 74% Satisf scores (n=79): 76%
RNLI results	n = 45 Range of scores: 22 – 100 10th percentile score: 53.6 Median Score: 79.5 90th percentile score: 98	n = 60 Range of scores: 50 – 100 10th percentile score: 72.3 Median Score: 86.4 90th percentile: 100
% demonstrating positive change in AusTOMs		Client Ratings (n=53) Participation: 86.8% Well-being: 48.1% Caregiver Ratings (n=27) Participation: 81.1% Well-being: 77.8%

Client experience

Edmonton		Calgary (n=72)
Participated in planning care	90%	97% participated in setting own goals 97% participated in selecting treatment activities
Services provided met needs	93%	100% agreed treatment relevant to goals
Confident and trusting of team	98%	100% agreed right person provided treatment and were knowledgeable and competent
Taught 5 warning signs of stroke	66%	86% received information about stroke

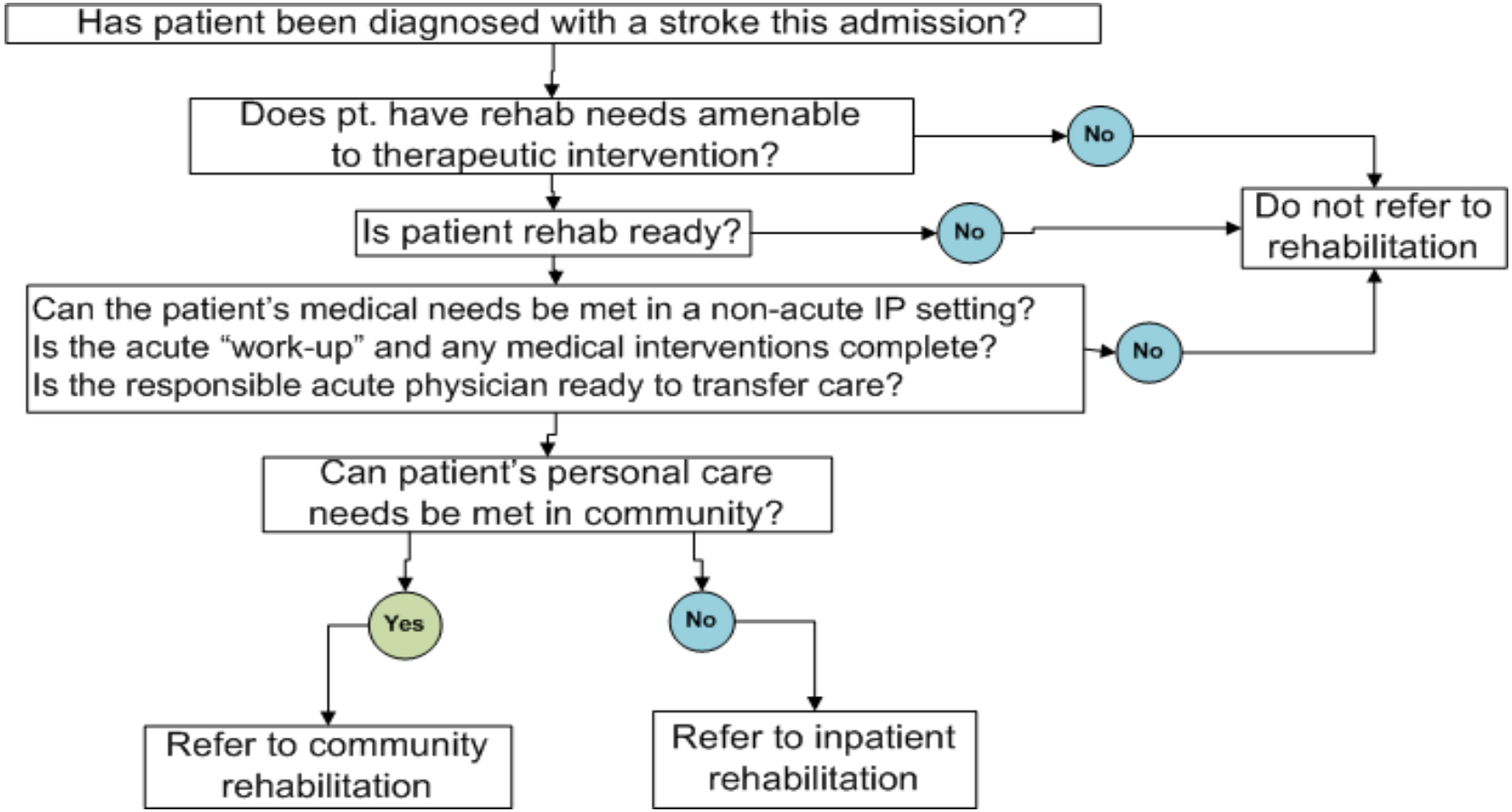
ESD and the future of Stroke Rehab

Defining Future Stroke Rehab - Consensus



*Garraway et al. (1981, 1985)

Stroke Rehab Algorithm



Edmonton ESD v. 2.0

- Re-started in October 2010
- Referring sites more familiar with the program
- Referrals received through Community Care Access(CCA)
- 70% of referrals received prior to inpatient discharge
- Currently receiving referrals from only 4 sites, with plans to expand to all Edmonton Zone acute care sites
- Caseload of 16 – 18/month

Edmonton ESD v. 2.0

Service description

- Maximum of 6 week LOS treatment model which sets functional goals with client and caregiver; established, driven, and evaluated by the Canadian Occupational Performance Measure (COPM).
- Treatment including prevention, rehab, community re-integration
- Education including coaching for self-efficacy, self-management and advocacy

Edmonton ESD v. 2.0

Expected Caseload

- Mild stroke impairment – projected FIM™ >80
- Moderate stroke impairment – projected FIM™ 40-80
- Single discipline need
- Involved caregiver
- 16-18 patients/month

Edmonton ESD v. 2.0

Aim: Right rehab, at the right time, in the right place

Staffing

0.5 FTE Clinical Lead (OT II)

0.5 FTE Admin support

1.0 FTE OT I

1.0 FTE PT I

0.8 FTE SLP

0.8 FTE SW

2.0 TAs

Edmonton Evaluation Plan

Key Success Factors	Areas of focus	# of indicators	Examples
Improve Access	demographics referrals and services provided timely access	14	LOS acute care LOS in ESD referral-to-seen date
Outcomes	impact on patient health status impact on caregiver	8	goal attainment return to normal living
Client/Caregiver Experience	impact on QOL	25	level of confidence
System Efficiency	use of services		cost-effectiveness services used

Future directions for Edmonton ESD

- review team composition - i.e., inclusion of Rec Th., increasing staffing complement
- expansion of services beyond Edmonton proper and current referral sources
- review complexity of patients seen and expected LOS
- further integration of ESD and acute care - earlier involvement of ESD in D/C planning
- decision maps to guide referrers to referring patients to the most appropriate rehab programs

Calgary Integrated Stroke Rehab Model

Access to Rehab Initiative

- Forum for ALL Calgary AHS stroke rehab services, including stroke survivors/families/caregivers
- Objectives – review current service, identify gaps and areas for improvement
- Consensus vision for future
- Central intake coordination for ALL stroke rehab services

Calgary ESD v. 2.0

Aim: Right rehab, at the right time, in the right place

Staffing

- 0.5 FTE Clinical Lead
- 1.0 FTE Admin support
- 2.0 FTE OT
- 1.6 FTE PT
- 0.8 FTE Rec T
- 0.5 FTE RN
- 1.0 FTE SLP
- 0.8 FTE SW
- 4.0 FTE TA
- 0.4 FTE QI consultant

Calgary ESD v. 2.0

Expected caseload

- Mild stroke severity (Projected FIM™ >80)
- Moderate stroke severity (Projected FIM™ 40 – 80)
- Single discipline need (e.g., SLP)
- 20 – 25 admissions/month

Calgary ESD v. 2.0

Service description

- Intake begins in hospital, prior to discharge
- Home-based intake 24 hrs. of DC
- Client-centred, transdisciplinary model of care
- Therapist assistant begins treatment 2 days after home intake
- Mild stroke severity – **Maximum** LOS of 4-6 weeks
- Moderate stroke severity – **Maximum** LOS of 6-8 weeks

Calgary Evaluation Plan

Objective	Scope	# of metrics	Examples
Improve rehab access	ESD efficiency System efficiency	11	• ESD cycle times • Acute and Tertiary LOS
Increase capacity of past acute rehab	System efficiency	4	• # of stroke clients accessing U58, VFC, CAR, ESD
Community participation and reducing burden of stroke	ESD effectiveness	5	• COPM • Austoms • FIM • Patient experience
Optimal use of resources	System efficiency System effectiveness	6	• Cost minimization and analysis • Service use

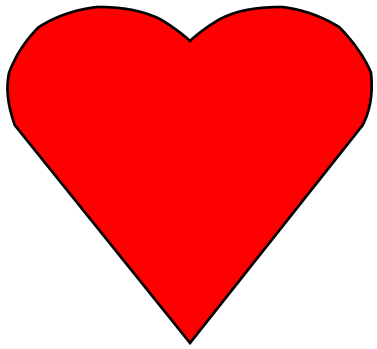
Alberta ESD v. 2.0

Expected system outcomes

- Decreased acute LOS (Stroke Unit)
- Decreased inpatient rehabilitation LOS (tertiary rehab)
- Decreased demand for inpatient beds
- Decreased demand for ambulatory stroke rehab

Calgary

Potential reallocation of inpatient staffing to ESD – sustainability and integration

I   ESD

Summary

- Rehabilitation provides best opportunity to reduce stroke burden
- Early Supported Discharge optimizes rehabilitation reach/access
- Edmonton and Calgary experience demonstrates patient and system benefits
- Integrated stroke rehab model has potential for sustaining improved access


THANK YOU!