Leveraging rehabilitation to improve stroke patient flow and quality outcomes

Preparing for Quality Based Procedures for Stroke Care

Dr. A. Jin, Dr. S. Bagg & C. Martin
Overview

- Rehabilitation across the continuum of care – Current state
- Canadian Best Practice Recommendations 2012-13
- The evidence
- The urgent platform: patient flow
- Introduction to Quality Based Procedures for stroke care
- What we are doing in Southeastern Ontario
  - Acute Care
  - Rehabilitation
  - Community
- Where do we go from here?
- Future state: What will it look like?
Current State

“Flo” – a person with Severe Stroke

- 87 yo woman, lives alone
- Admitted to General Medicine Unit
  - Develops UTI and pneumonia
  - Awaits another level of care (ALC) 4 mos, limited rehab, develops depression
- Transferred to Long Term Care, limited rehab

- Could the outcome have been better?
Current State

“Mike” – a person with Mild Stroke

- 60 yo man lives with family
  - Some communication deficits, mild motor & cognitive issues
- Admitted to Acute care for 13 days
- Admitted to Inpatient Rehab
  - Stays 3 weeks (no outpatient rehab available)
- Discharged home

- Could the process have been better?
Imagine this!!!
- Access to expert evidence-based care
  - in the right place at the right time
- Positive patient journey
- Excellent patient outcomes
- Money reinvested to improve care

How can we improve flow & patient outcomes?
2013 Best Practice Recommendations for Stroke Care

www.strokebestpractices.ca

Rehabilitation:
- Start early, expert team approach
- Intensive rehabilitation therapy
- Community/outpatient follow-up
Rehabilitation improves recovery from disability, restoring function, quality of life and community integration. It is a progressive, goal-oriented, team approach to enable optimal potential in all abilities: physical, cognitive, communicative, emotional and psychosocial.
START EARLY!
The Evidence: “Time is Function”

- The brain is “primed” to “recover” early post-stroke
- Acute Stroke Units = early access to an expert team
  - reduce mortality, improve recovery outcomes, reduce LTC
- Delays in starting rehab adversely affect recovery (Biernaskie et al., 2004)
  - Day 5 admission = marked improvement
  - Day 14 admission = moderate improvement
  - Day 30 admission = no improvement vs. controls
- A single day delay in starting neuro rehabilitation affects the functional prognosis and institutionalization rates at discharge (Neurología. 2012;27: 197—201)
Acute Stroke Unit Care

- Patients should be admitted to a **specialized, geographically defined** hospital unit dedicated to the management of stroke patients. (Evidence Level A)

- The core stroke unit team should consist of a healthcare team of professionals with **stroke expertise**. (Evidence Level A)
Proportion of patients **living at home** after the index stroke and cumulative difference between stroke unit

![Graph showing proportion of patients living at home and cumulative difference between stroke unit and control subjects over time.](image-url)
Critical Mass for Acute Stroke Units?

- Stroke volumes: at least 165 ischemic stroke patients per year per organization.
- Greater volumes confer additional benefits
- Supported by analysis of Ontario stroke data, 2002–2009
Therapy Intensity

What did the most efficient Stroke Centres do?

- Admitted to stroke rehab units with full interprofessional teams
- Admitted earlier and more disabled (proviso: medically stable)
- More intensive therapy (incl. W/E)
- Less time in assessments
- Move to high level tasks early
- Well developed outpatient services

Reality Check:
Therapy is less expensive than more time spent in hospital beds
Outpatient & Community-Based Rehabilitation

- Outpatient therapy improves functional outcomes

- Enhanced Community-Based Rehabilitation in SEO demonstrated positive outcomes

- Outpatient therapy is relatively inexpensive
  (1 PT/1 OT/0.5 SLP/0.5 SW = cost of 1 rehab bed)
The Urgent Platform

- Patient flow crisis; High ALC rates
- Stroke = condition with second highest ALC rate in SEO
- Bed days lost = system costs
- SEO Stroke Report Card: Limited and variable access to rehabilitation
- Quality Based Procedures for stroke care
  - ties funding to best practice
Wait Times (Median Days)
Stroke onset to Rehab Admission
CIHI NRS 2010-12

Median Days
2010-11
2011-12

- QHC
- KGH-SMOL
- Brockville
- SEO
- Ontario
- ON Benchmark

SEO Range 6 – 21 day median wait
Severe stroke: % Discharged directly from acute to LTC/CC
CIHI DAD 2010-12

<table>
<thead>
<tr>
<th>Location</th>
<th>2010-11</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belleville</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Kingston</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Brockville</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>SEO</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Ontario Benchmark</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Overall Benchmark</td>
<td>11</td>
<td>9</td>
</tr>
</tbody>
</table>

% to LTC/CC
2010-11: Blue
2011-12: Pink
2012/13 Days From Stroke Onset to Admission to Stroke Rehab Providence Care (average and median)

Source: National Rehabilitation System, CIHI
Health System Funding Reform $$$
Quality Based Procedures for Stroke Care
move towards a system where ‘money follows the patient’

- Hospitals, Community Care Access Centres and Long Term Care are the first sectors incorporated into the funding strategy.
- Patient-Based Funding is based on clinical clusters that reflect an individual's disease, diagnosis, treatment and acuity.
- Patient-Based Funding will include HBAM and Quality-Based Procedures.
- Health Based Allocation Model (40%)
- Quality-Based Procedures (30%)

Health Quality Branch, MOHLTC
Quality Based Procedures for Stroke Care – Clinical Handbook

- Acute stroke unit interprofessional care x 5-7 days
- Early intensive access to rehabilitation
- Transfer to rehabilitation by day 6 to 8
- Admission to rehabilitation 7 days a week
- Intensification of rehabilitation service
  - 3 hours a day, 6 days a week
- Access to ambulatory/community rehab

The Platform for Change - NOW is the time for regional, organized, holistic solutions
So.....What are we doing about all this?

??
Best Practice Recommendation for Stroke Rehabilitation 2013

Early Access to Rehabilitation

- Admission to Acute Care
- Triage to Rehabilitation Services
- Inpatient Rehab & Restorative Care Including Slow Stream Rehab

Intensification of Rehabilitation Services

- Regional Standards for Access to Rehabilitation Services (e.g., Triage)
- Full Interprofessional Rehabilitation Service up to 7 days/week
- Direct Rehabilitation Therapy 3 hours/day

Access to Outpatient and Community Services

- Outpatient Day Rehab
- CCAC Community Rehab

Suggestions/strategies identified to date by Hospitals/partners in stroke care and from best practice recommendations to streamline and optimize patient flow

<table>
<thead>
<tr>
<th>ID of High risk</th>
<th>Preventing functional decline in hospital</th>
<th>Regional Standard for access and delivery of formal rehabilitation</th>
<th>Regional Standard for Restorative Care in CCC/LTC</th>
<th>Community Linkages</th>
</tr>
</thead>
<tbody>
<tr>
<td>GO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Restorative Care Clinical Services Roadmap
Where do we go from here?
Imperatives for Improvement

Acute Stroke Unit Care
⇒ For HPE - Quinte Health Care – Belleville
⇒ For KFLA - Kingston General Hospital
⇒ For LLG - Brockville General Hospital
Where do we go from here? Imperatives for Improvement

Increased Options for Access to Rehabilitation Community

- Day rehab services – Kingston and Brockville
- Ongoing enhanced CCAC rehabilitation services

In-Patient

- Intensity of interprofessional rehab services
- Restorative rehabilitative options for severe stroke
Relevant Provincial Work
We are not alone!

http://www.onontariostroke.rehab.network.ca/rehab.php
Current  →  Future State

“Flo” with Severe Stroke

- Woman, lived alone

<table>
<thead>
<tr>
<th>Current State</th>
<th>Future State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admitted to General Medicine Unit</td>
<td>Admitted to Acute Stroke Unit 5 day stay</td>
</tr>
<tr>
<td>Developed UTI and pneumonia</td>
<td>Does not develop complications</td>
</tr>
<tr>
<td>ALC 4 mos, limited rehab, develops depression</td>
<td>Restorative Rehab Care 6 week stay</td>
</tr>
<tr>
<td>Discharged to LTC with limited rehab</td>
<td>Discharged to Residential Care CCAC Enhanced Rehab</td>
</tr>
<tr>
<td>Total Inpatient Days = (~4\text{mos} + \frac{\text{LTC}}{})</td>
<td>Total Inpatient Days = 47 days</td>
</tr>
</tbody>
</table>
**Current State** | **Future State**
--- | ---
Admitted to Acute care for 13 days | Admitted to Acute Stroke Unit 5 days
Admitted to Inpatient Rehab Stays 3 weeks (no intensive outpatient rehab) | Discharged Home Day Rehab 3-4 days/week
Discharged home | 
Total Inpatient Days = **34 days** | Total Inpatient Days = **5 days**

"Mike" with Mild Stroke
- Man - communication deficits, mild motor & cognitive issues
IMAGINE this!!!

- Access to expert evidence-based care
  - in the right place at the right time
- Positive patient journey
- Excellent patient outcomes
- Money reinvested to improve care

WHAT DOES THIS MEAN FOR YOUR PATIENT?
FOR YOUR PRACTICE?
Celebrate the wins!!
Questions/Discussion

www.strokenetworkseo.ca