The Impact of Moving to Stroke Rehabilitation Best Practices in Ontario

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Ontario Stroke Network
Overview

Discuss:

1. **Current State:** Assessing Stroke Rehabilitation in Ontario

2. **Recommendations:** Stroke Reference Group of the ER/ALC Expert Panel

3. **Potential for Change:** Preliminary modeling results and ongoing work
Objective 1

Describe the current state of Stroke Rehabilitation in Ontario
14 defined regions
Separate funding for rehab
Varied investment in stroke rehab
Overall

1) Survey stroke rehabilitation resources in Ontario

2) Use patient data to assess accessibility by LHIN

3) Test for association between resources and accessibility
Phase 1: Survey

Survey of FY 2009/10 rehabilitation that was:

- Government-funded
- Post-acute
- In a centre that saw >5 patients with stroke
Phase 1: Survey

Inpatient (52/54)
- Most reported limited resources
- Little information on amount of therapy provided

Outpatient (42/49)
- No database (little information available)
- Since 2009/10 8 cut, 2 new (60% changing)

CCAC (13/14)
- Only 3 reported no wait list for access to CCAC rehab
### Inpatient Caseload (beds/FTE)

**Phase 1: Survey**

PT and OT - Facility caseload 2.2 – 76  
SLP - Facility caseload 9 - 127 (if available)

<table>
<thead>
<tr>
<th>Facility</th>
<th>PT</th>
<th>OT</th>
<th>SLP</th>
<th>PT+PTA</th>
<th>OT+OTA</th>
<th>SLP+OTA</th>
<th>Social Work</th>
<th>Rec Ther</th>
<th>Nursing (RN/RPN)</th>
<th>Physiatry</th>
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Phase 1: Survey

Outpatient FTEs

Available FTEs by LHIN:

- PT 1.5 – 16.7
- OT 1 – 6.9*
- SLP 0.1 – 8.6
Phase 1: Survey

CCAC Rehab

ICES: Rehab visits/ patient (2007/08)

- PT 2.8 – 4.9
- OT 1.9 – 3.2
- SLP 1.9 – 3.6
Phase 2:

Assess accessibility by LHIN

Accessibility?

➢ Who isn’t getting care?
Phase 2: Accessibility

Only sufficient data for inpatient rehab

Used 2008/09 Ontario Stroke Audit (OSA) data to identify “candidates” for inpatient rehabilitation
Phase 2: Accessibility

Strongest predictors:

• Age
• Discharge Rankin score
• Level of consciousness
• Previous living situation/ independence
• Swallowing issues, dementia, depression

Able to distinguish patients admitted to inpatient rehabilitation with 83% accuracy
Phase 2: Accessibility

Among patients not admitted to inpatient rehabilitation in Ontario:

~1276 “Reasonable” candidates

~ 326 “Good” candidates

➢ Who are they and Where do they live?
## Phase 2: Accessibility

<table>
<thead>
<tr>
<th>High Accessibility</th>
<th>Low Accessibility</th>
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<tbody>
<tr>
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<td>North Simcoe Muskoka</td>
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<tr>
<td>Erie St. Clair</td>
<td>South West</td>
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<tr>
<td>North West</td>
<td>Hamilton Niagara Haldimand Brant</td>
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<tr>
<td>North East</td>
<td>Waterloo Wellington</td>
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Phase 2: Accessibility
Phase 2: Accessibility in Central South

“Reasonable” candidates – Estimates

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<th>N</th>
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<tr>
<td>Champlain</td>
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“Good” candidates - Estimates

<table>
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<td>SouthWest</td>
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<tr>
<td>Champlain</td>
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Phase 3:

Test association between resources and accessibility
Phase 3: Resources vs. Accessibility

Measuring rehabilitation resources:

- Rehab Bed Days/ Acute Stroke Discharge
### Phase 3: Resources vs. Accessibility

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## Phase 3: Resources vs. Accessibility

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<tbody>
<tr>
<td>Champlain (5)</td>
<td>N. Simcoe Muskoka (13)</td>
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<tr>
<td>Erie St. Clair (6)</td>
<td>South West (10)</td>
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<td>North West (3)</td>
<td>Hamilton Niagara Haldimand Brant (11)</td>
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<tr>
<td>North East (1)</td>
<td>Waterloo Wellington (7)</td>
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Summary

I. Rehabilitation resources are insufficient across the continuum
II. Patients are being missed
III. Resources Matter
Objective 2

Describe best-evidence recommendations from the Stroke Reference Group of the ER/ALC Expert Panel
The Rehabilitation and Complex Continuing Care (RCCCEP) Expert Panel

• Formed in December 2010 as a component of the ER/ALC expert panel
• Orthopedics and stroke were identified as priority populations
• The Ontario Stroke Network established a Stroke Reference Group to identify and recommend stroke rehabilitation best practices to the RCCCEP
• In June 2011, the panel released its phase I report outlining best-practice recommendations
Best Practice Recommendations

The following recommendations were selected for evaluation:

I. Timely transfer of appropriate patients from acute facilities to rehabilitation
   • Ischemic strokes to rehabilitation by day 5
   • Hemorrhagic strokes to rehabilitation by day 7

II. Provision of greater intensity therapy in inpatient rehabilitation
   • 3 hours of therapy per day
   • 7-day a week therapy
Best Practice Recommendations...cont’d

III. Timely access to outpatient/community-based rehabilitation for appropriate patients

I. Early Supported Discharge with engagement of CCAC

II. Mechanisms to support and sustain funding for outpatient and/or community based rehabilitation

III. 2-3 outpatient or CCAC visits/ week for 8-12 weeks

IV. Ambulatory rehabilitation provided as necessary

IV. Ensuring that all rehabilitation candidates have equitable access to the rehabilitation they need
Objective 3

Discuss the Potential for Change Through on Adoption of Recommendations
The Impact of Moving to Stroke Rehabilitation Best Practices in Ontario: A Preliminary Report

Presented to MOHLTC: January 5, 2012

Full presentation available via webcast at:
http://mediasite.otn.ca/mediasite41/Viewer/?p_eid=0901623170be4738a1cffe534d0d08f1d
Report Objectives

- Assess the potential economic impact of stroke rehabilitation recommendations
- To identify areas where further evaluation and validation of assumptions is necessary
- To comment on next steps
Total Estimated Impact: 100% attainment of best-practice recommendations would lead to:

18,605 acute ALC bed days made available (51 beds)
20,256 additional acute bed days made available (55.5 beds)
Total Beds = 106.5

$22,928,130 acute healthcare dollars made available
Weekday Therapist Calculations:

Current therapist staffing levels in Ontario rehabilitation units who care for stroke patients:

- PTs – 126.1, OTs – 110.9, SLPs – 42.7

Estimated staffing shortage (for 3 hours of therapy/day for stroke patients):

- PTs – 35.2, OTs – 41.5, SLPs – 36.1

Annual cost of additional staff:

- $8,557,831
Weekend Therapist Calculation Results:

Current estimate of full weekday complement for stroke patients (current staffing levels plus additional staffing estimates to achieve best-practice ratios):

- **PTs** – 104.7, **OTs** – 103.5, **SLPs** – 64.0

Staff shortage:

- **PTs** – 29.9, **OTs** – 29.6, **SLPs** – 18.3

Annual cost of additional staff:

- **$6,041,390**
Inpatient Rehabilitation Cost Impact-Greater Therapy Intensity

Best-Practice Staffing Summary:
Making 3-hours of therapy a day, 7 days a week available to every stroke patient admitted to inpatient rehabilitation in Ontario will require an estimated annual reallocation of funds.

$14,599,221
Inpatient Rehabilitation Cost Impact-Improved Efficiency

Impact of 3hr/day, 7 day a week therapy in the proposed system. 4 Considerations:

1. Reduced acute LOS
2. Greater acuity in rehab
3. Excessive LOS in rehab (>FIM 100)
4. Improved rehab efficiency
Inpatient Rehabilitation Cost Impact-Improved Efficiency

LOS reductions with assumed impact of 3hr/day, 7 day a week therapy:

Illustration of proposed rehabilitation LOS calculation for RPG 1130

Current

| Acute LOS (12 days) | Rehab LOS FIM<100 (18 days) | FIM>100 (11 days) |

Projected LOS with earlier transfer to rehabilitation

| Acute LOS (5 days) | Target Rehab LOS (current RPG 1120 LOS – FIM>100 = 30 days) |

Projected (with addition of 3hr/day, 7-day a week therapy)

| Acute LOS (5 days) | Target Rehab LOS (RPG 1120 – FIM>100) – 14% = 25.8 days |
Inpatient Rehabilitation Cost Impact—Improved Efficiency

Using revised LOS targets for each RPG, with no patient remaining in rehabilitation with a FIM>100, and assuming a 14% reduction in LOS via 3hr/day therapy, 7-days a week, the estimated impact is:

- 13,803 rehabilitation bed days made available (37.8 beds)

Using RPG targets $8,323,209 healthcare dollars made available
Total Impact on Inpatient Rehabilitation Sector:

- 13,803 bed days made available (37.8 beds)
  \[\text{Net cost of greater therapy intensity minus efficiency gains} = \text{additional annual investment of } \$6,276,012\]

\[= \$8,323,209 \text{ made available through greater efficiency}\]

- $14,599,221 in staffing required
Outpatient/ Community Rehabilitation Cost Impact

Challenge:
- limited information regarding current levels

Assumptions:
- 13% of patients discharged directly home from acute care require rehabilitation
- All patients discharged home from inpatient rehabilitation require further rehabilitation
Attaining 100% adherence to best-practice recommendations for outpatient and CCAC rehabilitation:

- Resources to provide 2377 additional candidates outpatient/Community rehabilitation annually will be necessary

An annual investment in outpatient/Community rehabilitation of $14,968,967 is required
Moving to Stroke Rehabilitation Best Practices in Ontario: Preliminary Report

Acute Sector
• ~38,861 acute bed days eliminated
• ~$22,928,130 made available

Inpatient Rehab
• ~13,803 rehab days made available
• ~$14,599,221 in additional staffing costs required
• ~$8,323,209 saved through greater efficiency

Outpatient/Community Rehab
• ~2377 additional patients need services
• ~$14,968,967 in additional annual costs required
Based on 100% attainment of the best-practice model for stroke rehabilitation in Ontario, the estimated net annual budgetary impact is:

$1,683,151
WORK IN PROGRESS
SORRY FOR ANY INCONVENIENCE CAUSED
Ongoing work

Challenge: Additional issues with earlier access to rehab

Strategy: hold focus groups across Ontario to discuss real-life barriers to implementation and possible solutions
Focus Groups

Barriers noted:

- Acute investigations not complete by target date
  - Tests, medical consults etc.
- Patients not medically stable by target date
- Limited bed availability in Rehab
- No resources for 7 day/week admits or Tx
- Too few staff on acute and rehab
- Insufficient outpatient/ community resources to support flow
Summary

✓ Challenges exist…… but so do solutions
✓ Implementation of Best-Practice can improve patient outcomes and system efficiency
✓ Guidelines, policy and investment decisions can help but…….
It’s in your hands
Thank you!!

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