INCREASING THE INTENSITY OF REHABILITATION FOR PATIENTS ON A SUB-ACUTE INPATIENT STROKE REHABILITATION UNIT:

Seeking Efficiencies in Scheduling of Rehabilitation

INTRODUCTION ~ TIME IS FUNCTION

**Background**
- Canadian Stroke Best Practice Recommendation: Adequate intensity of therapy essential to obtain maximum benefit (Hebert et al., 2016)
- Higher intensity therapy associated with better outcomes & reduced length of stay (Jette, Warren & Wirtala, 2005)
- Patients receiving 3-3½ hours of therapy per day fared better than those receiving less (Wang et al., 2013)
- In Ontario, collection of rehab intensity data (time a patient spends in individual, goal-directed rehabilitation therapy) has been mandatory since April, 2015
- It is a provincially recommended performance indicator of appropriate stroke rehabilitation
THE PROBLEM

- Current rehab intensity time in Ontario falls short of the recommendations.
- It is approximately 1/3 of recommended time in the Quality-Based Procedures: Clinical Handbook for Stroke (Health Quality Ontario & Ontario Ministry of Health and Long-Term Care, 2016).

“Stroke patients should receive, via an individualized treatment plan, at least 3 hours of direct task-specific therapy per day by the interprofessional stroke team for at least 6 days per week.”

AT FIRST GLANCE: MEASURING REHABILITATION INTENSITY IN ONTARIO (2015-16)

BETH LINKEWICH, RUTH HALL, RYAN METCALFE

Average Minutes/Day by Therapy Type

- Amount increased over quarters: 63.1 (Q1) – 66.5 (Q4) min/day
- Therapy assistants account for 25% of therapy
- Less than 1% of clients meeting the therapy-per-day target

[Bar chart and pie chart data]
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Regional Variation in Rehab Intensity?

Average Minutes/Day by LHIN

Much variability between regions (37.3 – 89.1 min/day)

REHAB INTENSITY PROJECT TEAM

- Setting & Population
  - 25 bed sub-acute inpatient neurology rehabilitation unit with patients with stroke/ABI & their family/caregivers as available
- Project Team:
  - Regional Stroke Rehabilitation Specialist, Unit Manager, National Rehabilitation Reporting System (NRS) Coordinator, frontline OT, PT, SLP and Rehab Assistant, former patient & family
STAFF & PATIENT ENGAGEMENT

- Sought staff feedback as to possible reasons why we are not achieving the 180 minutes/day of stroke rehabilitation intensity
- Chart paper left up in common room for 2 weeks

Examples

**Process:** Time for scheduling and updating boards
**Staff:** Ideally more Rehab Assistant involvement in morning care
**Clients:** Not ready for treatment
**Environment:** Much time spent clearing space in gym
**Policies:** Rehab staff not fully replaced for absences

REHAB INTENSITY PROJECT TEAM

- **AIM:** Maximize outcomes for patients with stroke on the inpatient rehabilitation unit
- **GOAL:** In 1 year, the amount of daily rehabilitation time that patients receive will increase by 50%, from 60 to 90 minutes.
- **OUR QUESTION:** What changes to scheduling processes contribute to increased rehabilitation time received by patients with stroke on an inpatient rehabilitation unit?
LITERATURE REVIEW
- 8 ARTICLES

Key Findings
- Technology used to support scheduling processes
- Designated non-clinical staff used to schedule patients rather than therapists
- Scheduling system must be flexible to accommodate regular changes and address individual patient characteristics and needs
- Access to the schedule by multiple users such as staff, patients, families and volunteers was necessary
- User-friendly, large, electronic visual displays were recommended
- Daily printouts for posting in individual patient rooms were suggested

References on last slide

LIT REVIEW SUMMARY

Overall level of evidence was low:
- 1 non-randomized retrospective study,
- 3 quality improvement projects
- 4 reports from the decision support and IT sector

Summary
- A number of efficiencies can be gained by improving upon the current state (therapists manually scheduling own patients)
- All studies reviewed supported the need for a local quality improvement initiative to seek scheduling efficiencies

(Vestri et. al., 2017; David, 1987; Pollard, 2016a & b; Ruston Berge, 2016; Beggs et al., 1971; Wood et. al., 2014; Hoang et. al., 2012; & Schimmelppfeng et al., 2012)
QUALITY IMPROVEMENT INITIATIVES

- Model for Improvement Approach
  - Plan-Do-Study-Act cycles

- Small Tests of Change
  - Non-clinical staff member for scheduling
  - Electronic, centralized schedule
  - Modified patient daily therapy schedule
  - OT and Assistant routinely scheduled for a.m. care routine

DATA COLLECTION/ANALYSIS

- Outcome Measure
  - primary: rehab time; secondary: LOS, FIM efficiency

- Process Measure
  - e.g. staff time spent scheduling, patient readiness for therapy,

- Balancing Measures
  - e.g. patient, family/care-partner, and staff satisfaction

- Team will also monitor & respond to unintended consequences, and additional factors that may influence rehab time during the project
  - e.g. staffing vacancy; competing priorities etc...
WHERE WE’RE AT...

- Rehab intensity has been steadily improving since April 2015
- Data quality continues to be stressed, weekly/monthly checks
- Outcomes reported quarterly to front line staff

**Median Rehab Intensity (minutes)**

![Median Rehab Intensity Chart](chart.png)

KEY REFERENCES