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Rehabilitation Intensity Communiqué

The Ontario Stroke Network's (OSN) Stroke Evaluation and Quality Committee has identified rehabilitation intensity as a key indicator for evaluating system efficiency and effectiveness and included it on their Stroke Report Card.

More recently, the Expert Panel for Quality Based Procedures for Stroke included rehabilitation intensity in the Quality Based Procedures: Clinical Handbook for Stroke and specifically in inpatient rehabilitation, suggested that receipt of an individualized treatment plan, that includes at least three hours of direct task-specific therapy per day for at least six days a week, be considered as an indicator of appropriate rehabilitation stroke care.[1,2] In Canada, the average rehabilitation patient gets approximately 1.5 to two hours of direct patient-therapist time per day.[3]

Rehabilitation intensity data are not currently collected in the National Rehabilitation Reporting System (NRS), and as a result we have not been able to report whether the recommended intensity of therapy is being delivered, nor if the stroke system is working effectively.

Why is Rehabilitation Intensity Important?

- Persons with stroke in inpatient rehab who received total therapy time less than three hours per day had significantly lower total functional gain than those treated for greater than three hours per day.[3]
- Core therapies of Physiotherapy (PT), Occupational Therapy (OT), and Speech-Language Pathology (S-LP) have been shown to be most sensitive to intensity.[4]
- Daily average and total amount of therapy time provided by OTs, PTs, and S-LPs are significantly correlated with gains in activities of daily living (ADL), cognition and mobility as well as overall functional improvement on the Functional Independence Measure® (FIM®).[4]
- Therapy is economical compared to length of stay. Less than 20 per cent of the total hospital budget in subacute rehabilitation is spent on core therapies.[5] Increasing therapy intensity can not only improve patient outcomes, but shorten length of stay and increase cost efficiencies.

Recommended staffing ratios for inpatient rehabilitation[1] are:

- PT/OT: one each per six inpatient beds
- S-LP: one per 12 inpatient beds

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Definition of Rehabilitation Intensity[6]

Rehabilitation Intensity is defined as:

The amount of time the patient spends in individual, goal-directed rehabilitation therapy, focused on physical, functional, cognitive, perceptual and social goals to maximize the patient's recovery, over a seven day/week period. It is time that a **patient** is engaged in active face to face treatment, which is monitored or guided by a therapist.

Rehabilitation Intensity entails:

- An individualized treatment plan involving a minimum 3 hours of direct task-specific therapy per day by the core therapies[1,7,8], for at least six days per week[1,7]
- Does not include groups
- Maximum of 33 per cent of therapy time with therapy assistants
- Documentation of time from the patient perspective with co-treatment time split between the treating therapists

Opportunity for Change

In 2013, the feasibility of collecting intensity of inpatient stroke rehabilitation using current workload measurement systems was tested in two stroke rehabilitation sites in Ontario. The findings identified that workload measurement is a feasible mechanism for collecting therapy time per day at the patient level.

The Canadian Institute of Health Information (CIHI) was also involved in the provincial consultative process and is supportive of linking rehabilitation intensity and patient functional outcomes in the NRS.
A provincial OSN Rehabilitation Intensity Working Group has been struck to support the formal request for data collection of rehabilitation intensity in the NRS.

What Does This Mean for Healthcare Providers?

Knowing the importance and impact of increasing rehabilitation intensity, a focus on increasing patient face to face time is needed. Accordingly, this involves capturing time the **patient spends in therapy**, rather than our current workload measurement system that captures **therapist time spent in therapy**. Collection of per patient therapy time should be recorded according to the rehabilitation intensity definition above. Further work is required to achieve this, first locally with the adaptation of workload measurement to capture this and at CIHI to add this indicator to the NRS.

Ongoing collaboration between healthcare providers and hospital health records/decision support is needed to ensure timely and accurate data collection.

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For further information, please contact your Stroke Network Regional Rehabilitation Coordinator.

References:

[1] Quality-Based Procedures: Clinical Handbook for Stroke, Health Quality Ontario & Ministry of Health and Long-Term Care, 2013.

[2] Lindsay, M.P., Gubitz, G., Bayley, M., Hill, M.D., Davies-Schinkel, C., Singh, S., and Phillips S. (2010). Canadian Best Practice Recommendations for Stroke Care (Update 2010). On behalf of the Canadian Stroke Strategy Best Practices and Standards Writing Group.

[3] Foley, N., McClure, A., Meyer, M., Salter, K., Bureauz, Y., Teasell, R. (2012). Inpatient rehabilitation following stroke: amount of therapy received and associations with functional recovery. Disability & Rehabilitation, 34(25): 2132-2138.

[4] Wang, H., Camicia, M., Terdiman, J., Mannava, M., Sidney, S., & Sandel, M. (2013). Daily Treatment time and functional gains of stroke patients during inpatient rehabilitation. American Academy of Physical Medicine and Rehabilitation, 5, 122-128..

[5] Teasell, R. (2012). Intensity of Stroke Rehabilitation. Presented at the Southwestern Ontario Stroke Rehabilitation Forum "Time is Function: Making it Real".

[6] Definition established as part of the OSN Rehabilitation Intensity Project through literature review, stakeholder consultation, and expert consensus.

[7] Ontario Stroke Network Stroke Reference Group, 2012.

[8] Meyer, M., O'Callaghan, C., Kelloway, L., Hall, R., Teasell, R., Meyer, S., Allen, L., Leci, E. (2012).The Impact of Moving to Stroke Rehabilitation Best Practices in Ontario. Final Report.