

EVERY MINUTE COUNTS

- Stroke Rehabilitation Intensity -



Presentation prepared by the Ontario Stroke Network
Rehabilitation Intensity Working Group
February 12, 2015



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Objectives

- To provide context on why Rehabilitation Intensity is important
- To share an overview of the provincial work and definition of Rehabilitation Intensity
- To share tips for overcoming common implementation challenges



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Rehabilitation Intensity: Why is this important?

Why is Rehabilitation Intensity Important?

- More therapy means better outcomes
 - Daily therapy time by occupational therapy (OT), physiotherapy (PT), and speech-language pathology (S-LP) is significantly correlated with gains in activities of daily living, cognition, mobility and overall functional improvement
 - < 3 hours/day significantly lowers total functional gain as compared to ≥ 3 hours per day
 - (Wang et al., The American Academy of Physical Medicine and Rehabilitation 2013;5:122-128; Foley et al., Disability & Rehabilitation 2012;34(25):2132-2138)*
- Core therapies more sensitive to intensity
 - OT, PT, S-LP have been shown to be most sensitive to intensity
 - (Wang et al., The American Academy of Physical Medicine and Rehabilitation 2013;5:122-128)*
- Therapy is cost-effective
 - Small proportion of total inpatient rehab hospital budget is spent on core therapies (<20%)
 - Positive impact on length of stay (LOS)



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Minutes Matter...

- Actual direct therapist-patient time and time spent in activation activities is important
- CERISE Trial
 - 4 European Rehab Centres, compared motor and functional recovery
 - Gross motor and functional recovery was better in centres with more direct therapy time (166 min)
 - Differences in therapy time not attributed to differences in patient/staff ratio (similar staffing)

(De Wit et al., Stroke 2007;38:2101-2107)

- Earlier access to and greater intensity of rehab is linked with improved functional recovery and reduced LOS

(E-Stroke Referral System data 2009/10)



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Practice Opportunity

Even though there is evidence that increased activity and environmental stimulation is important to neurological recovery ...

- Patients spend most of their day:
 - inactive (48%),**
 - alone (54%) or**
 - in their bedroom (57%).**

(West & Bernhardt, Stroke Research and Treatment 2012; 2012: Article ID 813764: 1-13)

Evaluation Opportunity

- 4 years ago the Ontario Stroke Network Stroke Evaluation and Quality Committee
 - Identified Rehabilitation Intensity as a important indicator of system efficiency and effectiveness
 - Included on the Ontario Stroke Report Card

GAP: Rehabilitation Intensity

ONTARIO STROKE REPORT CARD, 2012/13

Indicator No.	Care Continuum Category	Objective	Ontario FY 2012/13 ¹ (2012/13)	Ontario Access UMRs (Min-Max)	Provincial Benchmark	High Performer ² Sub-UHF/Facility (UHF)
1	Public awareness and patient education	Proportion of patients who arrived at ED less than 3 hours from stroke symptom onset	44.7% (42.1%)	37.2-54.6%	37.2-54.6%	Rural Veterans Services
2	Prevention of stroke	Annual age- and sex-adjusted hospital admission rate for stroke/TIA (per 1,000 population)	1.3 (1.2)	1.1-2.0	1.1 (1.1)	Thornburgh Sub-Unit
3	Prevention of stroke	Risk-adjusted stroke/TIA mortality rate at 30 days (per 100 patients)	12.4 ³ (11.2)	7.2-14.4	7.2-14.4	Stouffville Health Services
4	Prevention of stroke	Proportion of ischemic stroke/TIA patients with acute treatment prescribed or recommended at discharge from acute care (including those with contraindications)	82.6% (78.7%)	82.5-94.2%	82.5-94.2%	Windsor-Essex Health System, Brantford
5	Prevention of stroke	Proportion of ischemic stroke patients without acute treatment who received carotid imaging prior to hospital discharge	82.8% ³ (78.7%)	82.5-94.2%	82.5-94.2%	Brantford Health Services, Owen Sound
6	Acute stroke management	Proportion of suspected stroke/TIA patients who received a brain CT/MRI within 24 hours of arrival at ED	93.2% ³ (89.4%)	88.0-97.5%	88.0-97.5%	Toronto East General Hospital
7	Acute stroke management	Proportion of ischemic stroke patients who arrived at ED less than 3 hours from symptom onset and received acute thromolytic therapy (tPA) (excluding those with contraindications)	48.1% ³ (31.2%)	0.0-50.4%	41.0% (41.2%)	Lambton Health, Ontario
8	Acute stroke management	Proportion of stroke/TIA patients treated on a stroke unit at any time during their hospital stay	48.1% ³ (31.2%)	0.0-77.4%	49.7% (47.7%)	Stouffville Health Services
9	Acute stroke management	Proportion of stroke (excluding TIA) patients with a documented stroke symptoms screening performed during admission to acute care	61.2% (64.4%)	48.2-81.5%	47.7% (43.7%)	Grey Bruce Health Services, Owen Sound
10	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation	37.7% ³ (27.4%)	21.9-34.2%	22.4% (24.4%)	Nation Health Services Corporation, Oakville
11	Acute stroke management	Proportion of acute stroke (excluding TIA) patients discharged from acute care and admitted to inpatient rehabilitation	32.4% (31.3%)	24.2-39.1%	44.2% (42.4%)	Lambton Sub-UHF
12	Stroke rehabilitation	Proportion of stroke (excluding TIA) patients discharged from acute care who received a referral to inpatient rehabilitation	6.8% ³ (5.3%)	4.1-13.2%	12.8% (11.1%)	Thunder Bay City Sub-UHF
14	Stroke rehabilitation	Rehabilitation Mean number of minutes per day of direct therapy that inpatient stroke rehabilitation patients received	-	-	-	-
16	General Rehabilitation	Mean length of stay for inpatient stroke or inpatient rehabilitation	9.7 (9.7)	9.4-12.2	11.2 (11.2)	Windsor-Essex Health Services
17	Stroke rehabilitation	Mean number of CCAC visits provided to stroke/TIA patients in 2011/12 and 2012/13 (n=1,130)	5.8 ⁴ (5.7)	3.4-12.3	8.7 (7.9)	South East CCAC
18	Stroke rehabilitation	Proportion of patients admitted to inpatient rehabilitation with severe strokes (RNI > 13.0)	34.2% (31.4%)	23.4-42.3%	40.0% (40.4%)	Grey Bruce Health Services, Owen Sound
19	Reintegration	Proportion of stroke/TIA patients discharged from acute care to LTC/CCU (excluding patients originating from LTC/CCU)	7.9% (9.1%)	5.2-12.1%	2.6% (3.7%)	Kent County Sub-UHF
20	Reintegration	Age- and sex-adjusted reintegration rate at 30 days for patients with stroke/TIA for all diagnoses (per 100 patients)	7.4 ⁵ (6.1)	3.4-8.4	-	-

¹ Data based on stroke (including ischemic, TIA, I1, I2 and I30) and TIA for patients aged 18-104, indicators 1, 11, 12 and 13-20 are based on 2012/13 data; data for strokes are from the 2012/13 report card; indicators 1, 4, 6, 8 and 12 are based on 2012/13 data; data for strokes are from the 2010/11 OHSU report card.
² The 2012/13 high performer is the facility that achieved the highest score on the indicator for the previous reporting period. Performance was calculated as the proportion of patients who met the objective.
³ Provincial benchmark is the average of the best performing 10% of facilities on the indicator. 1, 11, 12 and 13-20 are based on 2012/13 benchmark; for indicators 4, 6-8 and 11, data are based on 2010/11 benchmark. For the benchmarking methodology, see Weisberg et al., Journal of Public Health Practice and Research, 2011, 13(1): 1-10.
⁴ High performers include acute care facilities treating more than 100 stroke patients per year, rehabilitation facilities admitting more than 40 stroke patients per year, or sub-units with at least 20 stroke patients per year.
⁵ Data are not available.

Local Health Integration Networks (LHINs)

1 Erie St. Clair	4 Hamilton Niagara Haldimand Brant	7 Toronto Centre	10 South East	13 North East
2 South West	5 Centre West	8 Central	11 Central	14 North West
3 Waterloo Wellington	6 Middlesex-Lutten	9 Central East	12 North Simcoe Muskoka	

Quality-Based Procedures

- Quality-Based Procedures: Clinical Handbook for Stroke includes Rehabilitation Intensity
 - As a recommended best practice, and
 - As a recommended performance indicator of appropriate stroke rehabilitation

(Quality-Based Procedures: Clinical Handbook for Stroke, Health Quality Ontario & Ministry of Health and Long-Term Care, 2013)



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Ontario Stroke Network (OSN) Development Work

Provincial Review and Stakeholder Engagement

- Stakeholders included:
 - Experts in stroke care, stroke leaders, clinicians, administrators, decision support and health records, CIHI, MOHLTC, and regional stroke network personnel
- Review encompassed:
 - Rehabilitation Intensity definition
 - Technical Feasibility
- Recommendations made – provincial working group formed



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Definition of Rehabilitation Intensity

- ***Rehabilitation Intensity**** is defined as:
 - The amount of time that a **patient** is engaged in active, goal-directed, face-to-face rehabilitation therapy, monitored or guided by a therapist, over a seven day/week period.
 - *Physical, functional, cognitive, perceptual and social goals to maximize the patient's recovery*

**Measuring Rehabilitation Intensity in NRS:
minutes of Rehabilitation Intensity (defined above) for OT,
PT, S-LP, OTA, PTA, CDA**

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



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Further Defining Rehabilitation Intensity

- An individualized treatment plan involving a **minimum** 3 hours of direct task-specific therapy per day per patient by the core therapies, for **at least** 6 days a week
- Includes core therapies – occupational therapy (OT), physiotherapy (PT), speech-language pathology (S-LP)
- Does not include group therapy
- Maximum of 33% of the total therapy time with therapy assistants*
- Documentation of time from the patient perspective
- Co-treatment time split between the treating therapists
- If one core therapy is not required, then more time is allocated to the other core therapies



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* occupational therapy assistant (OTA), physiotherapy assistant (PTA), or communicative disorders assistant (CDA)

Co-Treatment and Collaborative Treatment

- **Co-treatment of 2 treating therapists**
 - e.g., In a 1-hour session, both the PT and OT record only 30 min each
- **Co-treatment of 2 therapy assistants**
 - e.g., In a 1-hour session, both the OTA and PTA record only 30 min each
- **Collaborative treatment involving a therapist and therapy assistant**
 - e.g., In a 1-hour session, the PT records 1 hour and the PTA does not record his/her time



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Adjuncts to Rehabilitation Intensity

- Stroke best practices suggest that all patients should receive rehabilitation therapy within an active and complex stimulating environment

(Canadian Best Practice Recommendations for Stroke Care 2013)

- Adjuncts include: nursing, recreation therapy, social work, group therapy, volunteer programs, independent practice etc.
- Other disciplines and programming play an integral role in the rehabilitation environment and can contribute significantly to patient recovery. However, this time is not included in the Rehabilitation Intensity data and requires more research



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How Do We Measure Rehabilitation Intensity?

- **Technical Feasibility**
 - Workload Measurement Systems
 - Add data field(s)
 - Requires a culture shift – time PATIENT spends in therapy, not the time the THERAPISTS spend with the patient
 - Different metric than traditional workload measurement



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**Factors to consider when
implementing Rehabilitation
Intensity data collection**

What is needed to support Rehabilitation Intensity data collection?

- 1) Adaptation of your current workload measurement system (WMS)
- 2) Staff education on the new data elements and local process for Rehabilitation Intensity data collection
- 3) Transfer of information from your WMS to the National Rehabilitation Reporting System (NRS)



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Adaptation of your current WMS: Process steps to consider

- Identify key stakeholders (e.g., clinical, decision support and information management leads)
- Input from clinical team into adaptation of WMS
- Determine if WMS can capture stroke patient time spent in therapy
- Develop plan to add or modify data field(s)
- If not using an electronic WMS, consider development of manual data collection form
- Ensure that the new data elements are linked to the 6 NRS data fields



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Example of a draft WMS screen shot from Lakeridge Health (Meditech)

Calculate time

Total time (minutes)

of patients in group

Minutes for each

Total SR time:asmt+intervention+consultation+doc'n (min)

Select type of attendance/visit *

Count as new patient for this service

Patient discharged from this service

Group attendance (ARC only)

MDS therapy min (CCC/GARU only)

MDS therapy day (CCC/GARU only)

Rehab Intensity min (Stroke Inpt only)

Provider

Outpatient only:

Was the patient a no-show

Did the patient cancel the appointment

Specify clinic (Diagnostic Asmt Unit)

New data fields were added to support Rehabilitation Intensity data collection



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Example of a modified WMS screen shot from St. Joseph's Care Group (InfoMed-Promiso)

PromisoTEST - Windows Internet Explorer

Main Menu

- Data Entry
 - Form A
 - Form A(I)
 - Form A(R)
 - List Builder
 - Form B
 - Form C
 - Workload Totals
 - Demographic
 - Management Indicators
 - Staff Information
 - Closing Date
- Reports
- User Preferences
- Code Manager
- System Setup
 - General
 - Profession
 - Master Fields
 - Additional Features
 - Recording Methods
 - Field Names
 - EOC Date
 - EOC Numeric
 - Form A Counting
 - Form B Counting

Current User: [Redacted]

Profession: Physiotherapy Staff: [Redacted]

Meditech Unit No. ID: [Text] Search... Field Type: Text My List: [Dropdown]

*MIS Category: [Dropdown] *Team: [Dropdown]

CSR: I Contact Type: F

Date (dd/mm/yyyy): / / EOC...

Activity Category	Block Weight	No. of Blocks	Workload Units
Assessment	1.00		
Therapeutic Intervention	1.00		
Consultation/Collaboration	1.00		

Counting Field	Value
Cancellations	
No-Shows	
Phone Contacts	
Group? How Many	
3N RH Intensity	

Clear Data Save Cancel ?

Minutes of Rehabilitation Intensity time will be entered here



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Staff education on the new data elements and local process for data collection

- Local education sessions to increase the clinical team's awareness of the changes
- Data quality checks / audits in place to ensure accuracy and consistency in data collection amongst front line staff
- Provision of feedback / data to front line staff to ensure data accuracy and consistency of data collection
- Utilization of CIHI and OSN resources
 - Resource Guide
 - FAQs for clinicians
 - Standardized education template (MS PowerPoint)
 - Including clinical examples



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Key areas to include for staff education

- Context on the importance of Rehabilitation Intensity
- Rehabilitation Intensity definition
- Local process for data collection (clinical input and abstraction to NRS)
- Clinical examples to support staff learning



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Clinical Examples

Time	Activity	Rehab Intensity ?	Data recorded
730 - 800	Nurse provides cueing for morning breakfast and grooming activities	No – nursing activities not measured as part of the metric, nursing support and practice encouraged above the goal of 3 hours of therapy/day	NA
830-900	OTA with patient for therapeutic dressing activities	Yes	OTA – 30 minutes
915 - 1015	Transfers and gait training with PT and OT jointly	Yes	OT - 30 minutes PT - 30 minutes

Co-treatment example



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Clinical Examples

Time	Activity	Rehab Intensity ?	Data recorded
1045 - 1100	Patient practicing speech exercises in room with IPAD program	No – no therapist or therapy assistant present with patient	NA
1100 - 1200	Pet Therapy with Volunteers in Lobby	No – no therapist or assistant present with patient	NA
1330 - 1400	Collaborative treatment: Upper extremity /functional activity exercises with OT and OTA	Yes Collaborative treatment example	OT - 30 minutes



Clinical Examples

Time	Activity	Rehab Intensity ?	Data recorded
1415 – 1500	Speech therapy session with S-LP	Yes	S-LP – 45 min
1515 - 1530	Social Work meeting at bedside with patient and family	No	NA
1600 - 1630	Balance activities with PT for 15 min followed by 15 min on Nu-Step® in PT gym on unit while PT is working with another patient	Yes (time in balance activities would be included) Independent activity example	PT – 15 min
1900 - 1930	Mobility Exercises with Volunteers	No	NA



Transfer of Information from Your WMS to the NRS: What is Required?

- Understanding the new data elements (see CIHI information)
- Rehabilitation intensity data collected in WMS
 - Manual extraction from WMS
 - Input into NRS software platform
 - May be possible to work with vendors or local experts to bridge the data from WMS to NRS
- Creation and running of reports
- Data quality checks / audits (to avoid translation errors, etc.)
- Adequate time for training staff and data quality checks



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Other Considerations

- As Rehabilitation Intensity is a recommended QBP indicator and an indicator on the Ontario Stroke Report Card, the MOHLTC and OSN will review these data to monitor the current state of Rehabilitation Intensity provided within Ontario. At this time, these data elements are not linked to funding.
- Organizations should strive to provide a minimum of 3 hours of Rehabilitation Intensity time per day, but only the reporting of Rehabilitation Intensity data to the NRS will be mandatory as of **April 1st 2015**.
- Collection of the 6 data elements should commence as soon as possible after hospital staff have been trained and process for collecting rehab intensity has been put in place.

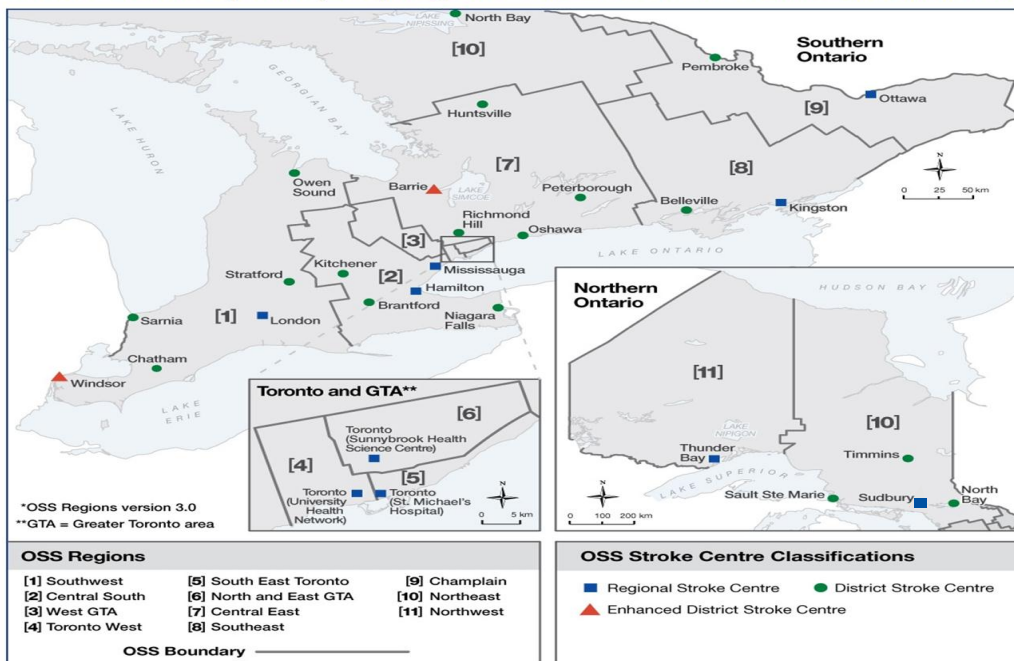


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Map of Ontario Stroke System (OSS) Regions

Ontario Stroke System (OSS) Regions* and OSS Stroke Centre Classifications



For any inquiries related to rehab intensity, please contact your OSS Regional Rehabilitation Coordinator.

For your OSS region, please view this map.

Next slide will provide a listing of all Regional Rehabilitation Coordinators for each OSS region.

Listing of all OSS Regional Rehabilitation Coordinators

NAME	EMAIL	PHONE	FACILITY/SITE/REGION
Beth Nugent	bnugent@toh.on.ca	613-798-5555 x14430	Champlain Regional Stroke Network
Janine Theben	janine.theben@trilliumhealthpartners.ca	905- 848-7580 x 5683	West GTA Stroke Network
Shelley Huffman	huffmas1@kgh.kari.net	613-549-6666 x 6841	Stroke Network of Southeastern Ontario
Deb Willems	deb.willems@lhsc.on.ca	519- 685-4292 x 42681	Southwestern Ontario Stroke Network
Donelda Sooley	SooleyD@rvh.on.ca	705- 728-9090 x 46312	Central East Stroke Network
Donna Cheung	cheungd@smh.ca	416- 864-6060 x 3832	South East Toronto Stroke Network
Esmé French	frenche@tbh.net	807- 684-6498	Northwestern Ontario Regional Stroke Network
Jenn Fearn	jfearn@hsnsudbury.ca	705- 523-7100 x 1718	Northeastern Ontario Stroke Network
Jocelyne McKellar	jocelyne.mckellar@uhn.ca	416- 603-5800 x 3693	Toronto West Stroke Network
Nicola Tahair	nicola.tahair@uhn.on.ca	416- 690-3660	Toronto Stroke Networks
Sylvia Quant	sylvia.quant@sunnybrook.ca	416-480-6100 x 7424	North & East GTA Stroke Network
Stefan Pagliuso	pagliuso@hhsc.ca	905-527-4322 x 44127	Central South Regional Stroke Network

Thank You!

Questions?

- Members of OSN Rehabilitation Intensity Working Group:
 - Beth Linkewich (Chair), Sylvia Quant, Donelda Sooley, Janine Theben, Deb Willems, Shelley Huffman, Amy Maebrae-Waller, Judy Murray, Jennifer White, Jennifer Fearn, and Ruth Hall



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