An Examination of
Post-Stroke Inpatient Rehabilitation Clients Whose Rehabilitation Goals Were Not Met

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Background

Upon admission to inpatient rehabilitation (IR), clients and clinicians work together to devise personalized goals as an integral part of effective treatment planning.[1,2] This process requires an assessment of the client's impairments and potential for recovery, and of what is needed to support community reintegration after IR. However, a small proportion of clients do not meet their IR goals. This analysis identifies certain group characteristics of stroke clients who did not meet clinical expectations for their course of recovery during IR.

Methods

Using 3 years of data from the National Rehabilitation Reporting System (NRS), first-time stroke clients discharged between 2012 and 2014 (N = 20,763) were examined based on their reason for discharge from IR and divided according to whether or not their rehabilitation goals were met. 716 cases were excluded. ANOVA and chi-square tests were used to analyze functional status,* discharge wait days and post-discharge living settings for the remaining 20,047 cases by age, gender and time from stroke to IR admission.

* Measures of patient function used in this analysis are based on data collected using the FIM® instrument, property of Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc.

References

1. Levack W, Dean S, Siegert R, McPherson K. Navigating patient centered goal setting in inpatient stroke rehabilitation: how clinicians control the process to meet perceived profession responsibilities. *Patient Education and Counselling*. January 2011.
2. Rosewilliam S, Roskell CA, Pandyan AD. A systematic review and synthesis of the quantitative and qualitative evidence behind patient-centred goal setting in stroke rehabilitation. *Clinical Rehabilitation*. March 2011.

Results

Table 1: Client characteristics

Variable	Metric	Goals met (N = 18,141)	Goals not met (N = 1,906)
Age	Mean (SD)	70.1 (13.9)	74.8 (12.8)*
Gender	Male	91.2%	8.8%
	Female	89.7%	10.3%
Onset days (time from stroke to IR)	Mean† (SD)	15.9 (13.0)	17.4 (13.6)*
Days waiting for IR discharge	Mean† (SD)	0.4 (1.7)	1.0 (2.9)*
Admission from home	Client	94.5%	91.0%
Living arrangements prior to admission	Lived alone	28.5%	32.7%
	Lived with spouse, family or other person prior to stroke	71.5%	67.3%

Notes
* Significantly different (p<0.05) from the *goals met* group.
† Calculated for 0–95th percentiles.
Source
National Rehabilitation Reporting System, 2012 to 2014, Canadian Institute for Health Information.

Summary of findings

- **9.5% of clients** did not meet their goals upon IR discharge. These clients
  — Were **older** and experienced a **greater number of onset days and days awaiting discharge** from IR (Table 1); and
  — Had **lower function** at admission and **lower functional gains** during IR (Figure 1).
- **12% of clients who did not meet their goals waited 15+ days** for discharge from IR. A much higher proportion of clients who met their goals experienced no days awaiting discharge (Figure 2).
- **77% of clients who met their goals and 7% of clients who did not meet their goals were discharged home** (Figure 3).
- **78% of clients who did not meet their goals were discharged to acute care or residential care** (complex continuing care, nursing home or long-term care facility) (Figure 3).

Implications of findings and conclusions

This analysis suggests that following stroke, IR goal setting and attainment tends to be less successful with groups of older, more functionally impaired clients. The greater average discharge wait time for clients who did not meet their goals means unsuccessful goal attainment was associated with unnecessary use of IR resources and potentially a decrease in the availability of rehabilitation beds for other clients.

Predicting clinical outcomes early in the post-stroke period is challenging, even for experienced clinicians. Methods to better predict clinical outcomes and potential response to IR for older, more functionally impaired clients would support clinicians' treatment planning and may reduce time spent by certain clients awaiting discharge from IR.

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To lead the development and maintenance of comprehensive and integrated health information that enables sound policy and effective health system management that improve health and health care.

Our Values

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About the National Rehabilitation Reporting System

The NRS contains client data related to adult inpatient rehabilitation in Canada offered in more than 100 hospitals and free-standing rehabilitation facilities in 9 provinces.

Facilities collect data on admission and discharge from the inpatient rehabilitation program and send it to CIHI. Flexible comparative reporting is available for all participating facilities, and data is also made available to the public through Quick Stats and focused analytical publications.

Figure 1: Average FIM® Total Function Scores* and functional change during IR

Goals met (N = 18,141): Admission 75.0, Discharge 99.5, Change 24.4
Goals not met (N = 1,906)*: Admission 53.4, Discharge 58.4, Change 6.0
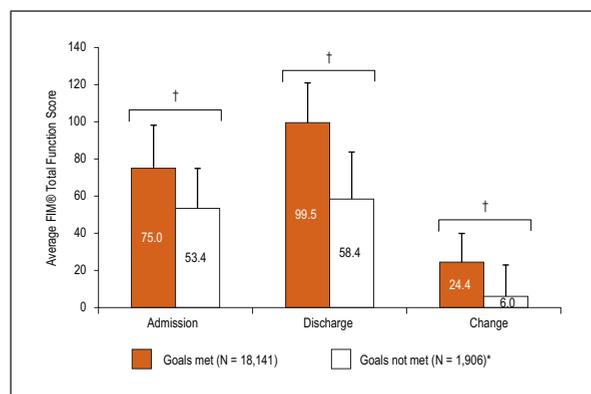
Notes
* Possible Total Function Score range is 18–126 points (higher score = greater function).
† Significant difference (p<0.05).
Source
National Rehabilitation Reporting System, 2012 to 2014, Canadian Institute for Health Information.

Figure 2: Distribution of days awaiting discharge from IR

0 days: Goals met 89%, Goals not met 73%
1–14 days: Goals met 6%, Goals not met 15%
15+ days: Goals met 4%, Goals not met 12%

Goals met (N = 18,141); Goals not met (N = 1,300)*
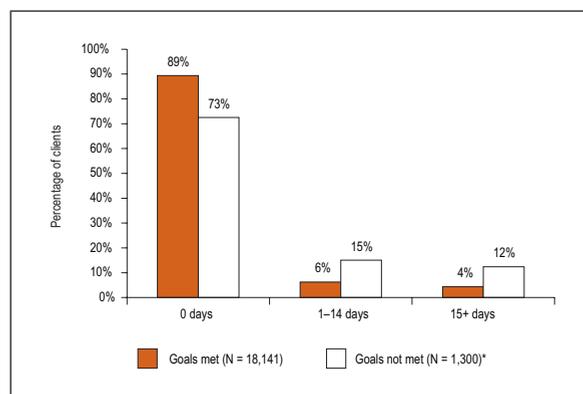
Notes
* 606 cases had no discharge wait time reported and were excluded.
Source
National Rehabilitation Reporting System, 2012 to 2014, Canadian Institute for Health Information.

Figure 3: Post-discharge living setting following IR

Goals met (N = 18,141): Home 77%, Assisted living 8%, Residential care 7%, Acute care 5%, Other* 3%
Goals not met (N = 1,906): Home 7%, Assisted living 11%, Residential care 27%, Acute care 51%, Other* 3%

Home, Assisted living, Residential care, Acute care, Other*
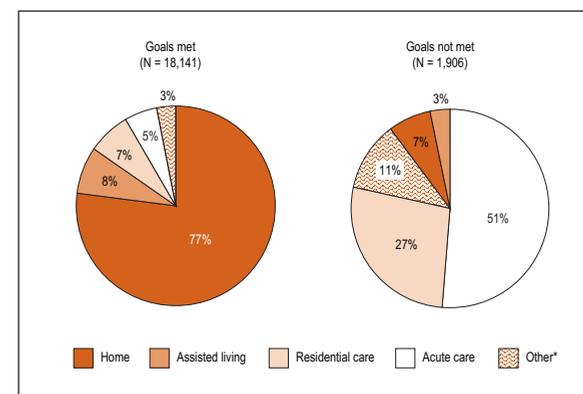
Notes
* Includes unspecified, not applicable, public place, shelter and boarding house.
Source
National Rehabilitation Reporting System, 2012 to 2014, Canadian Institute for Health Information.