Length of stay benchmarks for inpatient rehabilitation after stroke at Parkwood Hospital

Matthew Meyer, Eileen Britt, Heather McHale, Dr. Robert Teasell

LAWSON
HEALTH RESEARCH INSTITUTE

The research institute of
London Health Sciences Centre and
St. Joseph's Health Care, London.

ST JOSEPH's
HEALTH CARE
LONDON

Background

- Administration in Parkwood's neuro-rehabilitation unit were concerned that:

  I. No standardized benchmarks for LOS existed
  II. Use of mean LOS for program evaluation was inappropriate
  III. LOS could be reduced without negatively impacting patient outcomes

Objectives

- To develop benchmarks for LOS that account for:
    I. Patient severity
    II. LOS outliers
    III. Maintenance/improvement of patient outcomes

- And also……
    IV. Challenge staff to reduce LOS through open dialogue and improved efficiency
    V. Didn't require any additional data collection

Methods

- Work began in late summer 2009
- NRS data from Parkwood was retrieved for all stroke patients admitted between April 2005 and March 2008 (N=643).
- Patients were retrospectively divided into RPG groups
- *Median* LOS targets were established for each RPG

Methods

1. $FIM^{®}$ EFFICIENCY = $FIM^{®}$ GAIN / LOS
   ↓
2. LOS = $FIM^{®}$ GAIN / $FIM^{®}$ EFFICIENCY
   ↓
3. TARGET LOS = MEAN $FIM^{®}$ GAIN / 1.0

Methods

- Targets were then brought to members of the rehabilitation team to check that they were reasonable and attainable

- All targets were below current averages (none were felt to be too long)

- Targets that were felt to be too short were recalculated using a 0.75 FIM efficiency target

Initial Targets

- As a result of this process, the following LOS targets were established and included into team rounds starting in October 2009

RPG							
	1100	1110	1120	1130	1140	1150	1160
Median LOS Bench mark (days)	48*	37*	32	24*	16	20	10*

Implementation

- ***Targets are not fixed end dates***
- As a median target, the objective was to send 50% of patients home by the target
- On admission, patient RPG and targeted date of discharge were calculated
- Discharge date was used to facilitate discussion about patient progress and discharge planning
- If target date passed, discussion turned to patient goals and what was needed to meet them

Evaluation

- After 1 year, patient outcomes were compared to outcomes from the previous year.

	Pilot Benchmarks Oct09-Sept10	Comparison Year Oct08-Sept 09
Patient N	262	238
Age ($\pm$ SD)	66.4 (6.3)	66.1 (15.5)
Female (%)	44.3%	49.6%
Hemorrhagic (%)	12.6%	14.3%
Mean LOS $\pm$ SD (Median)*	35.3 $\pm$ 22.5 (30)	41.2 $\pm$ 27.5 (36)
Mean FIM™ gain $\pm$ SD (Median)	22.1 $\pm$ 16.1 (20)	23.9 $\pm$ 17.5 (21)
Discharged Home N (%)	212 (80.9)	193 (81.4)

Further Evaluation

- No differences in severity (by RPG) were noted between years

- Reductions in LOS were noted in each RPG and were statistically significant in 1100, 1140, 1150, 1160

- No statistically significant difference in mean FIM gain or discharge destination was noted in any group

Other Considerations

- Targets were designed to promote efficiency
- During the pilot year, two program changes occurred:

I.   Community Stroke Rehabilitation Teams (CSRT)

II. Improved access to evening/ weekend therapy

Re-Evaluation

- Targets were re-evaluated using 1 year results

- Targets should continue to challenge team members to improve

- Targets must be reasonable and patient-centered

Revised Targets

Original Targets

	RPG						
	1100	1110	1120	1130	1140	1150	**1160**
Median LOS Bench mark (days)	48*	37*	32	24*	16	20	10*

Revised Targets

	RPG						
	1100	1110	1120	1130	1140	1150	**1160**
Median LOS Benchma rk (days)	48	37	30*	24	20*	20	13*

Discussion

- Ongoing evaluation of targets is necessary

- Duplication at other sites would help to validate targets

Questions?

Matthew.Meyer@sjhc.london.on.ca

Eileen.Britt@sjhc.london.on.ca

Meyer M, Britt E, McHale H, Teasell R. Length of stay benchmarks for inpatient rehabilitation after stroke. *Disability and Rehabilitation* (in press).