

CORE HEALTH CARE EFFICACY ANALYSIS
2010-2011

Rehabilitation Efficacy

YEAR	AVG LOS (DAYS)	AVG MPAI-4 CHANGE: ADMIT TO DISCHARGE	PERCENT IMPROVED*	PERCENT NOT IMPROVED*	AVG CHANGE 1-MONTH POST-D/C
2010	148.1	-10.0	75.0	25.0	.667
2011	153.3	-11.4	76.2	23.8	7.25

* Improvement indicated by MPAI-4 total score change of 7 points or more.

Analysis

Average length of stay has remained relatively consistent in 2010-2011. There was no clear relationship between length of stay and rehabilitation progress. Given the wide range of lengths of stay, this likely reflects the fact that heterogeneity exists regarding the amount of time patients require to achieve optimal recovery. Over the past two years there has been a consistent trend of approximately 75% of rehabilitation clients achieving MPAI-4 total score improvement of 7 points or more. Group analyses reveal average improvement between 10.0 and 11.4 points, above the established criteria for improvement. Of the patients who did not achieve the expected functional improvement, several potential factors emerged as potential reasons for suboptimal gains, including:

- Medical complexity and/or medical complications during the admission
- Poor awareness
- Poor compliance with the program
- Multiple prior post-acute rehabilitation admissions

However, it should be noted that there are examples in the current data of patients with these factors who nonetheless achieved satisfactory rehabilitation gains. Therefore, the presence of these factors alone cannot be used to predict with confidence lack of progress in a patient. Rather, they serve as information for the rehabilitation team to consider in treatment plan development and execution.

Regarding post-discharge data, relative stability of participation gains was observed in 2010 discharges one month post-discharge. A greater decline in these gains was observed in 2011. Analysis of these data suggests several possible causes. First, these data were influenced by a few relative outliers who reported large declines in functioning. One of these individuals was very medically complex and unlikely to achieve meaningful participation in the viewpoint of caretakers who completed the form. Another individual demonstrated very poor participation and compliance during treatment, which likely carried over in the discharge setting. Additionally, there is a threat to reliability in that the discharge participation score is completed by therapists, and post-discharge forms are completed either by the patient or caregivers. We will continue to analyze trends in these data and make recommendations for improvement in measurement precision.

It was our intention to collect six-month post-discharge data in addition to the aforementioned intervals. However, response rate was extremely poor, thus rendering the available data of doubtful utility.

Rehabilitation Efficacy: Special Populations

GROUP	AVG LOS (DAYS)	AVG MPAI-4 CHANGE: ADMIT TO DISCHARGE	PERCENT IMPROVED*	PERCENT NOT IMPROVED*
Adolescents	215	22.5	100	0
Spinal Cord Injury	246.5	17.0	100	0

Analysis

In the past three years, CORE has served to individuals with spinal cord injury, and two adolescents. All of these individuals demonstrated significant improvement as a result of their rehabilitation stay. However, more data are necessary to confirm the initial trends.

Long-Term Care Efficacy

YEAR	AVERAGE MPAI-4 CHANGE	PERCENT STABLE*	PERCENT DECLINED
2010	2.94	44.0	56.0
2011	5.59	29.4	71.6

*Stability defined as change ≤ 0 .

Analysis

CORE Health Care's guiding rehabilitation philosophy is neuroplasticity, and as such we strive for improvement in all clients, regardless of age, injury severity, or program (rehabilitation vs. long term care). However, we acknowledge that some decline is inevitable as part of the aging process. Thus, success in the long-term program is defined by an absence of decline (i.e., MPAI-4 change score of zero or less). In 2010, long-term residents as a group declined by an average of just under 3 points. Just under half of the group demonstrated stability. In 2011, average MPAI-4 change declined to 5.59 points. A smaller percentage of individuals maintained stability in 2011 compared to 2010. A closer analysis of the data over these two years revealed significant within-resident variability. Specifically, multiple residents who declined in 2010 demonstrated improvement in 2011, and vice versa. The changes appear to reflect several processes, including normal fluctuation of status over time as well as some difficulty with inter-rater reliability. Raters are intentionally blinded to the previous year's scores to prevent bias.

Overall however, one-year stability between 29.4 and 44.0% is interpreted as reflecting success in our long-term programs. Many of our residents are in their 60s or older and aging in place with significant disabilities, medication regimes, and other challenges. Efforts are always ongoing to effect positive change in our residents regardless of these factors. For example, consistent with the phenomenon of neuroplasticity, we recently revised long-term therapeutic groups to focus more on cognitive enhancement. We have seen an increase in groups attendance

over the past two years, including attendance by residents who have been at CORE for decades who never before participated in these activities.

As part of our outcome process, we also collect post-discharge data on our long-term residents. However, there has been significant stability in our long-term population over the past three years, and a majority of the few residents who discharged from the program passed away, thus of course precluding follow-up. The response rate for the remainder of individuals who discharged was nearly nil, preventing detailed analysis. We will continue to solicit this information from long-term residents upon discharge for future analysis.