



Outcome Validation Study 2016

Executive Summary

2016 Outcome Validation Study submitted by:

Reviewed by: Rolf B. Gainer, Ph.D.
Board of Directors
Community NeuroRehab

Received by: Tom Brown, B.S., CBIST
Chief Executive Officer
Community NeuroRehab

Completed by: Angie Weis, MA, CBIS
Quality Improvement Director
Community NeuroRehab

Executive Summary

The CNR Outcome Validation Study measures the level of independence at discharge and whether that independence is sustained by paid services or unpaid community supports. The report provides an understanding of daily activities, including avocational and vocational endeavors, behavioral supports, social role return, substance abuse, interfering psychiatric issues, level of caregiver involvement, and other factors that affect quality of life and level of autonomy. The study has grown over the six years of operation, and as the number of measurable outcomes increases, it continues to assess long-term results, take on a longitudinal view and provides additional support to programming design and initiatives.

With the exception of the 2015 cohort, CNR has had a gradual increase in number of discharges from year to year. The 2016 cohort consisted of 14 discharges with an average length of stay at 10.52 months. For the first year since 2011, the 2016 cohort had more females than males with a breakdown of 57.14% females and 42.86% males. The average age at injury was 27 years of age which is in line with all previous years. The average age at time of injury was lower than previous year; the 2016 average age at injury was 36 years old when the previous cumulative average was 39 years of age. Motor vehicle crashes remain as the primary causative factor at 42.86%. The length of years between time of injury and admission to CNR was 8.8 years within the 2016 cohort; this was CNR's third lowest latency period within the last six years. CNR has identified that as time increases between injury and treatment, participants are more likely to experience greater co-morbidity, a history of failed treatments, and higher recidivism.

In terms of outcomes attained:

- 14.29% of participants were working at time of discharge; compared to the average of 24.44% in previous years. This decreasing trend was identified mid-year by CNR and, in response, CNR has since worked closely with Iowa Vocational Rehabilitation Services (IVRS) in supporting participants in applying for vocational support services within the first forty-five days of treatment whenever possible. IVRS has experienced a significant increase in the length time individuals are waitlisted; with a typical wait period being six to nine months, participants are often nearing discharge by the time he/she is assigned to a Vocational Rehabilitation Counselor.
- 78.57% of participants were discharged to a lower level of care (LOC) than CNR services; Additionally, out of state placement radically decreased as a discharge status.
- Interfering psychiatric, substance use/abuse, and behavioral symptoms prohibiting social role return were reduced by 42.86% between time of admission and discharge

In terms of durability of outcomes attained:

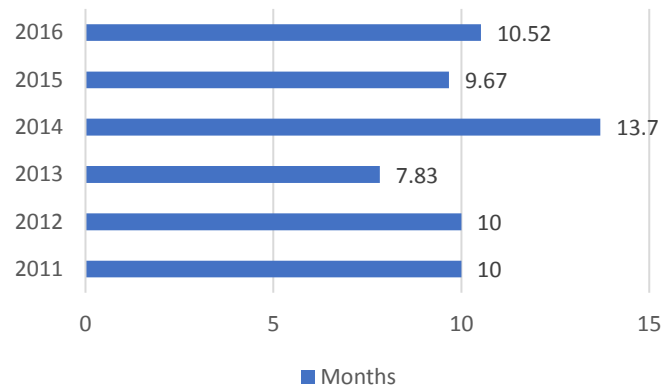
- 100% of participants working at time of discharge, remained working at time of follow-up

- 100% of participants who were discharged to a lower LOC remained at the same LOC at time of follow-up. 7.14% of participants were discharged to a higher LOC, however, returned to a lower LOC at time of follow-up.
- The reduction in interfering psychiatric, substance use/abuse, and behavioral symptoms prohibiting social role remained constant at time of discharge.

Cumulative Averages 2011-2015 Cohort Participant Characteristics		2016 Cohort	Cumulative Averages 2011-2015 Cohort Primary Means of Injury		2016 Cohort
Male Gender	68%	42.86%	MVA	39.78%	42.86%
Female Gender	32%	57.14%	Assault	9.78%	14.29%
Age of Injury	28	27	Hypoxia/Anoxia	21.33%	7.14%
Age at Admission	39	36	Aneurysm	8.57%	28.57%
			Fall	14.76%	7.14%
			Sports	2%	0%
			Other	22.78%	0%

Cumulative Averages 2011-2015 Cohort Placement Prior to CNR		2016 Cohort	Cumulative Averages 2011-2015 Cohort Discharge Destination		2016 Cohort
Out of State	37.11%	14.29%	In Community; No Paid or Unpaid Supports	13.11%	14.28%
Nursing Home	13.78%	0%	In Community with daily paid professional support	38%	28.56%
In Community with Supports	20.44%	50%	With family who provides daily support	20.89%	35.73%
In Community without Supports	10%	7.14%	Institutional Setting (incarceration, RCF, hospital)	19.78%	21.43%
Acute Rehab	7.78%	0%	Homeless	0%	0%
Hospital	7.78%	28.75%	Out of State	15.11%	0%
Incarceration	5.33%	0%			

Average Length of Stay 2011-2016



Cumulative Averages 2011-2015 Cohort Work Status Prior to Admission (Post Injury)		2016 Cohort	Cumulative Averages 2011-2015 Cohort Work Status Post Discharge		2016 Cohort
Student	0%	7.14%	Student	4%	0%
Not Working	81.56%	64.28%	Not Working	75.56%	85.71%
Working with Supports	10.89%	14.28%	Working with Supports	14%	14.28%
Working with No Supports	5.33%	14.28%	Working with No Supports	6.44%	0%
Self-Employed	2.22%	0%	Volunteer	4%	0%

Social Living Issues	At Discharge	At Follow-Up
No significant changes in social role function	7.14%	7.14%
Some changes in social role function (personal, vocational, social difficulties)	21.43%	14.28%
Moderate change in social role function due to identified personality, behavior, and/or cognitive change	35.71%	42.86%
Marked change in social role function due to identified personality, behavior, and/or cognitive changes	14.28%	14.28%
Unable to function in the community/requires structured environment	21.43%	14.28%
Deceased	0%	7.14%