

# Outcome Study Highlights

2004 - 2011



# About the Outcome Validation Study



Since 1997, NRIO has conducted an Outcome Validation Study to evaluate the performance and quality of its services and programming. The study was redesigned in 1999 and continues to use that format. The study looks at various groups that are serviced by NRIO, as well as customer and staff satisfaction. Over the years, the study has evolved to better measure the relevancy of rehabilitation as related to the challenges faced by our clients as they return to independence, family, work, and school. An important component of the outcome study is the durability of the outcomes attained by clients over time. The study presented online offers an overview of how NRIO rates as a service provider.

*The table below illustrates the various demographic factors found in the clients we surveyed.*

Domain	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	AVG	Jones & Evans Study
<b>Avg. Age at Injury</b>	31.4	29.8	31.1	32.6	30.7	33.7	41.7	25	31.7	35.1	29.4	36.13	26.25	31.6	37.6	32.2	35.4
<b>From injury to admit to NRIO (avg. months)</b>	26	29.8	40.7	22.5	15.3	15.7	12.5	12.5	17	7.0	32.6	25	35.27	27.1	46.5	23.3	14.4
<b>Mechanism of Injury (%MVA)</b>	81.8	100	100	83.3	94	95	66.7	87.5	91	100	87	96	96.3	93.3	88.5	89.9	64
<b>Percent Male</b>	75	73	50	100	50	77	67	56	64	83	74	69	76	60	64	67.1	N/A
<b>Percent Female</b>	25	27	50	0	50	23	33	44	36	17	26	31	24	40	36	32.9	N/A
<b>% Glasgow Coma Scale (&lt;9)</b>	100	100	100	100	100	91.2	100	93.5	82	100	96.4	76.29	62	60	82	83.3	65

The NRIO clients are entering into post acute rehabilitation with reduced inpatient rehabilitation stays and closer in time to the acute phase of their recovery from injury. The shift to “sicker and quicker” which has affected the brain injury rehabilitation population impacts significantly on the types and intensity of rehabilitation needs and functional deficits which are addressed in post-acute rehabilitation.

# Clinical Outcomes Attained at Discharge



The return to a more independent lifestyle is an important goal sought by many individuals with brain injuries. The table below indicates that individuals receiving services through NRIO have made remarkable strides in social return issues and struggles related to impediments to their success.

	2004	2005	2006	2007	2008	2009	2010	2011	Average
% Employed, Supported Employment or Vocational Training	37.5%	25%	34.3%	43%	19%	7.4%	23.4%	54%	22.3%
% Discharged home with less than 2 hours of paid care	25%	55%	40%	57.5%	38.1%	22.2%	25%	43%	28.1%
% Reporting "no change" in primary social role as spouse, parent, caregiver	33.3%	25%	50%	37.5%	33.3%	11.1%	12.5%	6%	20.1%
% Experienced change in dependent status requiring more care from family members	33.3%	62.5%	22.1%	24%	25%	13.7%	10.5%	16%	25.5%
% Reporting Substance Abuse Problems Post Injury	25%	66.5%	39.5%	32.5%	8.3%	14.8%	37.5%	26%	29.0%
% Reporting Psychiatric Problems Post Injury	22.5%	36.5%	45%	52.5%	42%	29.6%	18.7%	53%	26.2%

For individuals who have experienced a traumatic brain injury, the concept of independence includes the self-management of the disability and an increased ability to participate in community living and social relationships. A person with a brain injury may require ongoing support from others to replace lost functions or to bridge impaired skills. The degree of achieved independence will differ from person to person. In our follow-up studies, post discharge, we continue to see individuals regain and maintain independence in their care, social role, and avocational/vocational activities.

NRIO's clients continue to return to a significant level of independence in community living, social relationships, activity participation, and self-direction of care. The global outcomes attained by our clients support NRIO's mission of promoting and enhancing a return to independence.

# Satisfaction Results 2011



NRIO has conducted customer satisfaction surveys since 1993. In 2000, the organization adopted a revised Customer Satisfaction Survey format, which was based on a survey tool in use at a related organization since 1997. The Customer Satisfaction Survey is based on a compressed Likert scale with the neutral rating removed. The charts below indicate a high degree of consistent satisfaction from both our clients and our professional contacts.

<b>Client &amp; Family Satisfaction</b>	<b>% Agree/ Strongly Agree</b>
Oriented to Program	100%
Initial Questions Answered	100%
Participated in Rehabilitation Training	100%
Agreed with rehabilitation plan	100%
Staff are skilled	100%
The program is helpful	100%
The program is flexible to meet changing needs	100%
Information is of quality and accessible	100%
Clients treated with dignity and respect	100%
Recommend NRIO to others	100%
External accreditation influenced admission decision	89.5%
Satisfied with quality of services	100%
Rehabilitation at NRIO was a positive experience	100%
Participated in discharge planning	89.5%

<b>Case Manager and Referring Professional Satisfaction</b>	<b>% Agree/ Strongly Agree</b>
Initial contact was timely and efficient	100%
Initial questions answered in a thorough manner	100%
Participated in Rehabilitation Planning	100%
Agreed with rehabilitation plan	100%
Knowledgeable and professional staff	100%
Program was helpful to my client/patient	100%
Program was flexible to meet client's changing needs	100%
Information was of high quality and accessible	100%
Costs were comparable to other providers	100%
Recommend program and services to others	100%
Accreditation influenced opinion	100%
Satisfied with overall quality of services	100%
Rehabilitation at NRIO has been a positive experience	100%

Across a wide variety of domains, a consistent majority of clients, family members, and professionals indicate that NRIO has earned their satisfaction. By fostering a culture of strong, supportive communication between all individuals involved in a patient's care, we're able to attain the most effective results.

# 2011 Outcome Study



## HIGHLIGHTS

- ✓ Reduced medical rehabilitation length of stay prior to admission to NRIO increased rehabilitation needs of clients admitted to NRIO. Over the course of the outcome study, NRIO clients have become more medically acute with issues related to increased injury severity. Additionally, there are more than 50% of the NRIO clients with psychiatric and/or substance abuse problems at the time of admission.
- ✓ Paid supports needed for independence and community mobility were reduced for all program cohorts (adults and children) and clients continued to experience positive support reductions.
- ✓ In the 2011 Outcome Durability component, 100% of the discharged clients from 2008 demonstrated a reduction in paid supports required in the home and community.
- ✓ In 2011, 43% of the discharged adults returned to their home with no to moderate paid support levels.
- ✓ In the 2011 Outcome Durability component, 90% of the discharges from previous years experienced improved functions outside of the home; 100% reported maintaining their social role function since discharge and 100% were maintaining a higher level of independence in the home and community.
- ✓ In the years 1997 to 2011, the percentage of individuals admitted to NRIO with pre and post injury psychiatric and substance abuse problems continued to increase. The program has responded with specific services and enhancements to assist our clients with their problems throughout their rehabilitation and community return.

## SUMMARY

- ✓ In general, the people served by NRIO are increasing in age and injury severity from 1997. Additionally, the amount of time from injury to NRIO admission is decreasing. This means that people are coming to NRIO with more acute rehabilitation needs having spent less time in an acute medical rehabilitation setting.
- ✓ Functional outcomes improved for all three adult groups: "Slow-to-Recover", "Moderately Impaired", and "High Functioning." There was a higher rate of return to work, school or vocational training for both the High Functioning and Moderately Impaired groups. 58% of the High Functioning group returned to their pre-injury Social Roles without any modification of those roles (parent, spouse, friend). Only 27% required occasional support. For the Moderately Impaired group, 47% were discharged to home with moderate to no paid support needs. At the time of admission, 20% of these clients came from hospital or chronic care placements, group homes, or 24-hour supervision in their homes. No clients returned to that level of care.
- ✓ Across a variety of measured domains, NRIO continues to offer its clients a dynamic range of services that demonstrably indicate achievement and success. Our satisfaction results serve to underscore our tradition of excellence and quality care, in both our relationships with our clients and our community.