

INVESTING IN LASTING CHANGE

RESIDENTIAL REHABILITATION:

An effective, outcome- oriented model for moderate to severe brain injuries – a cost effective bridge to going home.

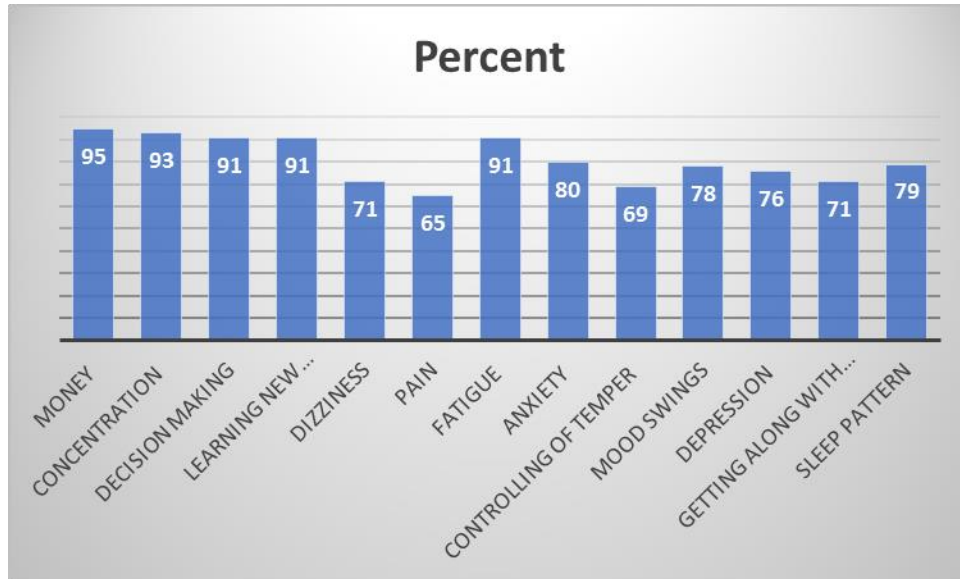
Every year 50,000 Canadians sustain brain injuries. The World Health Organization estimates that 90% of Traumatic Brain Injuries are mild, 5% are moderate and 3% are severe therefore a small percentage of the brain injuries that occur every day in this country fall into the moderate to severe category. Following the acute hospitalization and in-patient care phase, most of the individuals who sustain these injuries will require further intensive rehabilitation to regain the skills essential to living with independence, returning to productivity, meaningful activities and maintaining healthy relationships with family, friends and the community.

The return to home, family and community will always be a goal for most individuals. The acute rehabilitation phase referred to earlier, consultation with experienced professionals will determine if an immediate return to the home is an appropriate discharge environment.

Families require long-term support, but most professional interventions are provided during the acute period (Lefebvre et al. 2005; Leith et al. 2004).

The long term support referred to in the preceding is normally beyond the capabilities of families and loved ones, who can become overwhelmed with the changes in the person who has been injured. While there is a natural desire to feel that an immediate return to a familiar home environment is the best avenue to recovery and normalization, long experience has proven otherwise. (Many studies, as cited in this article, have demonstrated that providing residential rehabilitation, early on results in increased independence for the survivor.) Rather, further rehabilitation at an in-patient, private residential facility will be a time of teaching, training, and healing for the person who survived the brain injury and their family.

The Ontario Brain Injury Association released the OBIA impact report in 2012 which is a “statistical snapshot of Acquired Brain Injury and its Effects on Survivors and Caregivers”. Data for this research study was collected through the Ontario Brain Injury Survey. This study revealed that respondents with brain injuries had trouble some or most of the time with the following activities:



The impairments listed above are only a small portion of the data collected. Bowel and bladder care, childcare, housework and personal care issues were also significant issues for respondents. In addition, there are many therapies recommended following brain injuries e.g. physiotherapy, psychology/counselling, psychiatric services, occupational therapy, family counselling and support, speech therapy, rehabilitation therapy and attendant care support which require intervention and assistance. Caregivers usually coordinate and provide the transportation to appointments and meetings for these therapies. Eighty two percent (82%) of persons surveyed in the OBIA impact report indicated that they use riding with others as their means of travel. Residential rehabilitation removes the transportation barrier to initially access intensive services and can result in developing skills that will assist the survivor in planning and executing a plan for alternate means of transportation to outpatient therapies for the future.

This OBIA impact study revealed that 73% of caregivers for persons with acquired brain injuries are more than 50 years old and 75% of the caregivers live with the person who has the brain injury. 79% of caregivers say the brain injury has impacted their finances and 46% of caregivers state that caring for their loved one has impacted their employment status. 37% of the caregivers indicated they had no access to a break from their caregiving duties. 30% of the caregivers felt that the person with the brain injury was not living in an appropriate environment. What is most concerning is that 52% of the caregivers admit they have concerns about the behaviour of their friend or relative since sustaining a brain injury, which may put her/him at risk.

These serious concerns can be clinically addressed in a residential rehabilitation stay. Residential rehabilitation for the individual to regain skills in a supported environment with rehabilitation professionals lessens these enormous caregiving responsibilities and concomitant economic cost of dependence.

Residential rehabilitation is cost-effective. While it is costly to create an individualized, intensive and structured program of residential rehabilitation, research has confirmed that the expense of rehabilitative care may be offset by the shorter duration of dependence on that care for the lifetime of the survivor if a comprehensive residential program specializing in Acquired Brain Injury rehabilitation is provided early on to the injured person.

Harvard School of Health Professor Linda Blimes has stated that 40 years of care for an individual injured at 23 years of age may range in cost from \$8,000,000 to \$17,000,000 (U.S.D.). The goal of residential rehabilitation is to decrease this number.

Outcome studies have shown it is cost effective to have a client in a residential program for an average 3 -9 month course of treatment following acute hospitalization. Turner-Stokes found that the levels of dependency of patients (and therefore the costs of their care) decreased as a result of active rehabilitation programmes focused on regaining independence. The timing of the residential rehabilitation also has an impact on outcome. The financial costs associated with delayed or denied treatment often result in additional costs to the private sector payer. Cope and Hall, in 1982, conducted a study in which 2 similar groups of people with Acquired Brain Injury were placed into rehabilitation programs. One group was entered soon after their injury and the other groups received late admissions to rehabilitation programmes. Those admitted later required twice the length of stay to achieve similar outcomes as the group admitted early: – this study indicated potential costs savings of \$40,000 (for the residential rehabilitation period) per patient in the early rehabilitated group.

Residential rehabilitation follows a prescriptive model as outlined and directed by the regulated health care professionals. The front line Rehabilitation Therapists and the Attendant Care support staff complete the activities as directed and follow through on the prescribed goals. The client is in a home / real life (apartment) environment with a comprehensive focus on rehabilitation. It is difficult for clients in residence to avoid treatment as staff are present to encourage participation.

Clients who come into residence may have a multi disciplinary team, which may include:

- Case Manager (who coordinates and oversees the medical and rehabilitation needs)
- Psychologist
- Social Worker
- Psycho-Therapist
- Physiotherapist (PT)
- Occupational Therapist (OT)
- Speech Language Pathologist (SLP)
- Nursing care
- Dietician

- Medical Services (Family Doctor, Psychiatry, Physiatry, various Physicians / Specialists, etc.)
- Dual Diagnosis supports (Mental Health, Substance Abuse, Behaviours, etc.)
- Rehabilitation Therapist (RT) to carry out the prescriptive model and to also assume Attendant Care responsibilities
- Teacher
- Job Coach
- Community agencies including government funded
- Funder
- Legal representative

The following sample of daily activities illustrates the value of the different activities performed by the Rehabilitation Therapist and Attendant Care staff as designed by the regulated health care professionals. Every waking hour is rehabilitation and intended to develop and maximize the skills necessary to independence. The rehabilitation professionals’ interventions promote comprehensive rehabilitation to bridge from in-patient residential programs to home and the community. Each client is an individual and their needs, therapies, level of functioning and rehabilitation programming may vary.

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| Orientation; daily schedule – OT and SLP related. Develops memory, problem solving, organization, time management and orientation. | Activities of Daily Living (ADL) shower / bathing / dressing routines – OT and PT related. Promotes initiation, sequencing, planning, balance, memory and ensures a basic level of personal hygiene is maintained. | Grocery Shopping; Meal preparation; Meal routines – OT, PT and SLP related. Improves on swallowing, attention, following direction, fine and gross motor skills, communication, and budgeting. |
| Oral Motor Exercises – SLP related. Works on swallowing, voice, volume, oral motor and expressive language. | Range of motion; Sitting on side of bed; Standing; Exercises; Headaches, Dizzy – PT related. Addresses issues with weight bearing, balance, proprioception, standing / sitting tolerance, transfers, trunk control, and gross motor skills. | Card games, computer games, and cognitive worksheets – OT and SLP related. Develops memory, eye hand coordination, concentration, attention, reading, purposeful responses, reading, and writing. |
| Coping Skills – Psych related. Addresses stress management, self-regulation, problem solving, social communication, and relaxation training. | Baking / cooking activities – OT related. Applies following instructions, sequencing, reasoning, problem solving, fine motor skills, communication, and attention. | Arts and Crafts, Recreational activities – OT and SLP related. Engages functions of fine and gross motor skills, creativity, information processing, planning, attention, and navigation. |
| Current Events – Social Media, Television, Newspaper – OT and SLP related. Develops memory, attention, orientation, reading, reasoning, flexibility. | Tracking, documentation related to mood, pain management, social skills, sleep issues, responding to real life situations and developing a plan of action – Psychologist, Social Worker. Promotes good psycho- | Assessments: Problem Solving; Antecedent Behaviour Consequences; Mayo-Portland; Suicide Risk; STAXI -2; Overt Behavioural Scale – Psychologist, Social Worker, Psycho-Therapist. |

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| | social outcomes, strategies, problem solving, pacing techniques. | Addresses post injury behaviours, psychiatric issues, and substance abuse, etc. |
| Routines; hygiene; indoor/outdoor tasks; laundry; transportation; community safety; budgeting; fire safety; emergency management; medication management; sleep; fatigue; physical activities – OT and PT related. Promotes independence, judgement, problem solving skills, initiation and motivation. | Social interactions and cognitive communication – SLP related. Addresses breathing; articulation; resonance; spoken / written language; perceiving; remembering; judging; reasoning; relating experiences; ideas; knowledge; and feelings. | Recreational and leisure activities – all disciplines. Improves generating ideas; motivation; initiation; planning; organization and problem solving. |
| Sleep hygiene, pacing, and energy conservation – all disciplines. Promotes developing healthy behaviours that promote better sleep at night and fatigue management during the day. | Visual scanning and eye exercises – OT, PT and SLP related. Targets visual perception, figure-background discrimination, visual scanning, and reduction of diplopia (double-vision). | Avocational and vocational related activities – OT related. Works on resume development, job search techniques, volunteer experience, interview skills, productive, meaningful activities and appropriate behaviours in the workplace. |

The Lynne Turner Stokes study also showed that patients admitted to residential rehabilitation programs had a mean total length of stay of approximately 6 months, with a mean cost of admission of 52, 500 euros (approximately \$72, 700 CAD). This expenditure resulted in an overall reduction in dependency from admission to discharge which equated to weekly savings in care costs of 950 euro (approximately \$1,315 CAD). This savings offset the cost of rehabilitation within 14 months.

More importantly, the individuals in longer stay programs experienced increased independence as a result of their rehabilitation. One case study provided by Turner-Stokes referenced a 27 year old male who participated in a course of residential rehabilitation of 18 weeks post injury following a spontaneous left intracranial haemorrhage. He was not talking and was dependent for all self-care upon admission; by discharge he was walking and able to care for himself. There were many complicating factors in this case and in all, the rehabilitation stay was 392 days at a cost of 127 400 Euros (approximately \$176,400 CAD). The estimate weekly care costs savings was 1027 Euros (approximately \$1,425 CAD) making the offset costs time 31 months. If he had not participated in rehabilitation and increased his independence, his cost of care could have continued for 40 years, making the 31 months offset time comparably minimal.

CONCLUSION:

Private residential programs are cost effective treatment for clients who have sustained a moderate to severe brain injury. In fact, residential rehabilitation has been proven to decrease the cost of care for persons with brain injuries over the lifetime of the individual. More importantly, residential rehabilitation provides learning that leads to independence for people who have

survived brain injuries. These programs address the unique medical and rehabilitation needs of the individual and provide durable and validated results. They improve quality of life for the clients and their family and support systems. They are a needed bridge to going home.

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