

Canadian Perspectives:

Writing a Future Care Cost (FCC) Report for Children Post TBI in Canada

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Abstract

This article comprises a literature review of functional outcomes after Traumatic Brain Injury (TBI) in childhood and considerations for the preparation of the Future Cost of Care (FCC) report and valuing future needs and Canada. Children with TBI have dissimilar outcomes. Injury characteristics, environmental influences, and developmental factors affect outcomes. Injury severity plays a larger role for cognitive outcomes and the environment is important for behavioral and functional outcomes. Writing an FCC for a child with TBI should “restore” them to the position they would have been in if the accident had not occurred. This is challenging as the plan must adapt over their lifetime. Scenarios, and court decisions will be included.

Factors Affecting Outcomes in Children with Traumatic Brain Injuries (TBI)

Children who experience TBI's in childhood have different outcomes depending on various factors, such as the amount of time that has passed since their injury, the child's age at the time of injury, and the child's family environment (Taylor et al., 2002; Yeates, 2012). Other factors like severity of injury, premorbid characteristics of the child, and cognitive and psychosocial factors also affect a child's outcomes (Anderson et al., 2005; Hessen et al., 2007; Koskiniemi et al., 1995; Muscara et al., 2008).

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Social advantage, access to rehabilitation and other resources, child and family adjustment, and degree of residual disability should be considered when developing a life care plan as well (Anderson et al., 2005; Yeates, 2012; Yeates et al., 1997). In Anderson et al. (2012), it was noted that preinjury adaptive functions were associated with 10-year adaptive skills and family function was related to children's social/behavioral skills contributed to long-term outcomes. The authors noted that preinjury adaptive functions were associated with 10-year adaptive skills and family function was related to children's social/behavioral skills contributed to long-term outcomes. In addition they also demonstrated that environmental and child factors usually contribute to recovery at 10 years post injury. In particular, preinjury function predicted 10-year adaptive abilities, whereas family intimacy was linked to social and behavioral function.

Other difficulties related to the elevated risk of children after TBI are the development of psychiatric disorders. Moderate or severe TBI is associated with persistent adaptive behavior deficits (e.g., poorer communication, socialization, and daily living skills) and functional limitations (Fay et al., 2009; Max et al., 1998; Yeates, 2012). There appears to be a number of robust relationships between predictor variables and outcomes, most particularly between preinjury adaptive abilities and acute IQ, and functional outcomes (Anderson et al., 2012).

Despite the complexity of interrelated factors, trends can be observed in the prognosis and recovery of children with TBI's.

Prognosis and Recovery

Research on children with TBI identified residual problems in cognition, attention, executive function, and memory. These problems will interfere with skill acquisition, causing adaptive deficits, academic failure, and social and behavioral dysfunction, as well as personal and economic burden for the family and community (Anderson et al., 2012).

Children with TBI display a gradual recovery over the first few years after injury, with the most rapid improvement occurring soon after the injury (Taylor et al., 2002). Anderson et al. (2012) concluded that recovery trajectories plateau from 5 to 10 years for all groups, regardless of injury severity. Typically, therapy related to brain injury is restorative only to a point and then it is supportive in nature. This means that there is a point when a child does not tend to make functional improvement and support of current functioning or maintenance is the goal. Anderson et al. (2012) found that functional difficulties following serious childhood TBI persist into adulthood. Survivors of severe TBI are particularly vulnerable and demonstrate increased risk of unemployment and reduced quality of life. These findings suggest that, at least for some, TBI is a lifelong problem, impacting the individual's capacity to meet developmental expectations across a range of functional domains.

There are other studies that indicate that adults with TBI have a higher risk of mental illness and substance abuse problems. Negative behaviours, such as violence and aggression or over-friendliness and other social inappropriateness, including lack of judgement, have been demonstrated by adults with severe TBI and are affecting their safety. Behavioural disturbances evolving due to TBI are no less important than physical injuries. These problems usually lead to substantial causes of disability and handicap both in children and adults. Costs of detox programs and level of daily supervision should be considered.

Young children with severe TBI recorded reduced intellectual abilities at 10 years, with medium to large effect for adaptive, executive, and social abilities. When it comes to long term, efforts to restore cognitive and behavioural abilities after TBI, may positively influence outcome. Multi-disciplinary rehabilitation team including an occupational therapist (OT), psychologist, speech language pathologist (SLP) and behavioural therapist may be required long term for these children. Efforts to integrate the TBI child into age-appropriate activities, if possible, should improve cognitive and behavioural function and will influence long-term outcomes as well (Shaklai et al., 2014). In addition, extending the rehabilitation duration was noted to positively influence reintegration into the educational system (Shaklai et al., 2014).

In most cases, after a protracted recovery period, these children gradually stabilize and begin to make some developmental gains, suggesting that even many years post-injury, intervention may be effective. However, it is typically recommended that a therapist perform periodic interventions during times of transition / crisis / change over the long term in the cases of TBI.

Functional Outcome Elements to Consider when Developing a Future Care Cost (FCC) Report

Writing an FCC for a child with TBI assists to “restore” the child to their prior level of functioning as much as possible before the accident. This is challenging as the plan must adapt over the child’s lifetime and include changes to the parental situation.

Recommendations must be reasonable or reasonably necessary, and not overly aggressive or over-reaching. The most common items that must be costed are further rehabilitation, emotional support, vocational rehab, attendant care and supervision, housing, transportation, supplies and equipment. Attendant care can be the largest single expense in the future care plan for a child with TBI and level of care must be considered. In addition to the level of care, the location as well as the caregiving agency are also important. A child has the right to live and be cared for in the least restrictive environment if that is their preference and family members are not expected to be caregivers.

To develop an FCC, the life care planner tries to piece together how the child fills his/her day and what would influence the functional outcome as an adult. The plan must address safety for the child with regards to level of supervision needed throughout the child’s lifetime. The parameters to consider in formulating the approach should include the extent of impairment with executive functioning, complex decision making, social functioning and mental health. In addition, the life care planner would have to address employability and vocational outcome, vocational interventions, and work modifications. When exploring outcomes for children with TBI, there are three functional elements that research suggests are important to the assessment of functional elements.

First, academic success should be assessed. Childhood TBI is frequently associated with reports of declines in school performance (Taylor et al., 2002) and with an increased risk of grade retention, placement in special education, and other indicators of academic difficulties (Ewing-Cobbs et al., 1989; Taylor et al., 2002). The academic difficulties that children with TBI face are predicted by a variety of factors, including the child’s premorbid classroom performance (Catroppa et al., 2008) and post injury neuropsychological functioning (Kinsella et al., 1997; Miller & Donders, 2003), as well as the child’s post injury behavioral

adjustment (Yeates & Taylor, 2006). This can predict employability and overall daily routine in adulthood.

While considering that academic success, social functioning, and behavioral adjustment are the major factors predicting functional outcome, the life care planner needs to address these predictors in their plan by identifying probable needs for current and future costs. For example, consideration of needs would be given toward graduating high school and participating in college, as well as finding and maintaining employment. Employability is normally related to academic success. Drawing out scenarios including level of supervision required may depend on whether the child completes high school/ does not finish high school or completes college or does not finish college.

Second, childhood TBI often results in social functioning problems (Yeates et al., 2007). Children with moderate to severe TBI demonstrate less social competence and are lonelier than healthy children or children with injuries not involving the brain. Poor social outcomes persist over time (Bohnert et al., 1997; Dennis et al., 2001; Yeates et al., 2004). This can create needs for emotional support, supervision, and rehab therapy to develop a routine and productive life in adulthood.

Third, behavioral regulation should also be addressed. Moderate to severe TBI in children increases the risk of a wide range of emotional and behavioral problems (Fletcher et al., 1990; Schwartz et al., 2003; Taylor et al., 2002). In contrast to cognitive difficulties, which often show recovery in the initial months after injury, behavioral problems show a stable or even worsening pattern over time (Fay et al., 2009). This can affect the need for a high level of supervision, high frequency of rehab therapy, specific housing needs, and access to a detox program and guardianship.

Questions assisting the life care planner in assessing these elements include: What behavioral issues affect risks and safety? What would be the risks and safety issues as the child grows? Is the parents' supervision level over and above normal parenting? Does the child require someone more skilled than a personal support worker? Would two different types of caregivers, at various times of day (i.e nights) with different skill sets, be appropriate?

Developing Scenarios when Writing future care cost reports

Creating different scenarios can be challenging when evaluating future needs. Scenarios questions related to attendant care may include: risk for safety for life or only during teenage years, the need for attendant care to maintain employment, private hire or agency hired attendant care, live in or 24 hour attendant care, home or long-term care facility, etc.

Scenarios related to employment may include: graduation from high school or college, driving ability, the ability to retain and consistently maintain employment. For positive outcomes, needs should be considered regarding tutor service for any post graduation education, job coach service, and if not able to work, the frequency for rehabilitation services to maintain a daily routine needs to be addressed.

Scenarios related to mental health support, which can also affect attendant care needs, may include risk for addiction and detox hospitalizations, legal problems with the law such as arrests, requirement for constant supervision, and risk of mental health issues that will require extensive psychological services, medications and hospitalizations.

If there are several scenarios addressed in the life care plan, the damage quantification expert may take the midpoint cost between recommendations, and then present the maximum cost and the minimum cost. This would simplify the presentation to the reader, rather than show 2, 4, 6, or 8 scenarios.

Case Law Examples

Sandhu v. Wellington Place Apartments (2006) is the most well-known case with \$17 million being awarded, almost \$11 million was for future costs of care. This is a case about a child that at the age of 2 years old, fell from a fifth story window, onto a concrete pavement and suffered severe injuries including frontal lobe injury. Harvinder Sandhu was 10 years old at the time of the trial. There was much dispute in the case over whether as an adult he would ever be able to live on his own. Experts opined that it was anticipated that the child would develop to function at a level “not older than a 12-year-old” child and would require 24/7 care for life.

It was also anticipated that he would go through a number of developmental changes, which would require significant variations in his costs of care at different periods of his life and his low IQ complicated his overall needs. His professional treatment needs, such as occupational and speech / communication therapy, were recommended throughout the long-term future. In fact, it was anticipated that due to his severe brain injury, he might get in trouble with the law and have the need for legal services in future due to the legal allegations or charges and this was costed under attendant care.

In the decision the judge stated to the juries:

[632] You have heard evidence from several witnesses about Harvinder living at home at different points of his life. We do not know if Harvinder will be able to live with a family member during his entire life and if so which family member. Your decision must take into account Harvinder’s entire life. While it might be reasonable to expect Harvinder to live with his parents for the foreseeable future one cannot be certain that this will last and, in all probability, Harvinder will outlive his parents. Furthermore, if Harvinder develops behavioural problems, this may impact where and with whom he lives.

[633] I want to emphasis the damages for future care are the damages of Harvinder, not of the family. It is incorrect in law to discount the quantification of the cost of future care on the assumption it will be provided by Harvinder’s family. A plaintiff is not required to ‘mitigate’ in respect of future care costs by living with his family. Regardless of whether the family will provide some of the care, Harvinder’s future care costs should be quantified based on the cost of purchasing the appropriate level of care from the marketplace.

[634] The cost of purchasing care in the marketplace must be the cost of care which is suitable for Harvinder’s needs and which allows him to be facilitated to do all that he is able to do with support, rather than a lower level of support which would pay someone else to do things for him. It also must be the level of care, which is supported by expert evidence.

In the case of *MacNeil v. Bryan* (2009), the 15-year-old female passenger in a vehicle was involved in an accident with resulted in a severe brain injury. She was awarded over \$15 million for future care costs.

In *Gordon v. Greig* (2007), Justice Glass awarded over \$11 million to Derek Gordon, of which \$8.6 million was for costs of future care and attendant care. Ryan Morrison who was in the car with Derek Gordon, was awarded over \$12 million, almost \$9 million was for attendant care and future care. In this case the judge commented on the Life Care Plan and supported the fact that it “considered deficits in the cognitive area [such as] executive function, impulsivity, irritability, difficulty with following through with tasks, balance issues and fatigue.” He supported the fact that the Life Care Planner had a balance of rehabilitative support workers and attendant care service providers, so that duplication does not occur. The judge stated: “[60] Future care costs are based on a reasonable chance that the losses will occur.”

Conclusion

As the determination of future needs is difficult to conclude with any certainty, especially in the case of young children with a TBI, experts must be retained. Their analysis has to be based on sound medical evidence to support their predictions on the amount of medical and rehabilitation, attendant care, and housekeeping and home maintenance required with duration of time and at what costs. The expert quantifier’s (accountant, economist, or actuary) role with respect to future cost of care is to show the present value for each item. The life care planner is required to predict needs for many years in the future of a child and the FCC report may include many scenarios. The valuation of scenarios is based on the midpoint cost between recommendations.

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