

# Introduction to the special issue on pediatric educational re-entry after TBI

Melissa McCart<sup>a,\*</sup> and Susan Davies<sup>b</sup>

<sup>a</sup>Center on Brain Injury Research and Training, Department of Psychology, University of Oregon, Eugene, OR, USA

<sup>b</sup>Department of Counselor Education and Human Services, University of Dayton, Dayton, OH, USA

Each year approximately 895,000 U.S. children ages 0–19 years sustain a traumatic brain injury (TBI) requiring hospitalization or emergency treatment, a rate of 1,092 per 100,000 population (Children’s Safety Network, 2023). The effects of TBI on children can be life altering, affecting every aspect of functioning including academic performance, cognitive ability, behavioral changes, and social functioning (Babikian et al., 2015; Haarbauer-Krupa et al., 2021; Jones et al., 2019). In 1990, the Education for All Handicapped Children Act of 1975 was reauthorized as the Individuals with Disabilities Education Act (IDEA) with TBI added as a disability category. Since the 1990 reauthorization, over three decades ago, there has been an increased focus on the needs of children who sustain TBI when they return to school (RTS) and sports. The research in this area, however, has largely been descriptive in nature centered on transition from hospital to schools and developing responsive systems of support for re-entry to school (Dettmer et al., 2014; Gioia et al., 2015).

In this special issue of *NeuroRehabilitation*, we asked leading researchers in childhood TBI from around the world to share their work related to RTS after TBI. While contributing authors address the topic from a variety of perspectives and research methods, a unifying theme emerged suggesting the profession needs a more responsive and coordinated approach to educational service delivery for students with TBI. Presented below are the key insights that emerged from this special issue.

---

\*Address for correspondence: Melissa McCart, Ed.D., Center on Brain Injury Research and Training, Department of Psychology, University of Oregon, Eugene, OR, USA. E-mail: mccart@uoregon.edu.

First, most of the focus on TBI in school settings has been on educators; there are few occasions in which the perspectives of families with a child with TBI are taken into consideration. McCart et al. conducted a longitudinal qualitative study to better understand the experiences of students and parents with the education system following TBI. Participants identified a number of factors that contribute to conflict in home-school relationships, including a lack of student tracking from year to year, lack of educator training about TBI, and conflicting views between educators and parents about students’ needs. McCart et al. conclude that improving educator training in TBI can facilitate parent-professional partnerships and improve student outcomes. The study’s findings point to both the need for more consistent and comprehensive educator training on working with students with TBI and their families.

There is broad agreement that schools play a crucial role in the rehabilitation of students with TBI; however, the effectiveness of that role hinges a great deal on whether educators are using evidence-based strategies and interventions. Clasby et al. conducted a systematic review to evaluate the effectiveness of school-based supports following TBI. Their conclusions indicate that although a variety of approaches exist, including psychoeducation, behavioral scripts, and attention training, the evidence-base for individual interventions for students with TBI is limited, with meager convincing data to guide policy or practice. More robust experimental evaluation of educational interventions for TBI is warranted to address this gap in knowledge and establish with confidence what rehabilitative practices work with students with TBI.

73 There is a need for improved access to school sup-  
74 port services, particularly for children with TBI from  
75 minority backgrounds. Jimenez et al.'s review of the  
76 literature on RTS post-TBI found that for the past 22  
77 years, few participants with TBI were recruited from  
78 racial and ethnic minority backgrounds or from poor  
79 and rural communities. Transgender and non-binary  
80 youth were also not represented in the research base.  
81 Because vulnerable and diverse populations are at  
82 increased risk for sustaining a TBI and experiencing  
83 poor outcomes, these students need better represen-  
84 tation in TBI studies so that we can better understand  
85 the nuances of their experiences.

86 Structured and consistent care coordination across  
87 medical, educational and family systems is a key  
88 component of effective RTS approaches. Lundine  
89 et al. conducted a qualitative study investigating  
90 the perspectives of medical, educational and fam-  
91 ily stakeholders about barriers and facilitators to  
92 care coordination as students RTS. Findings revealed  
93 several important challenges to address to improve  
94 care coordination: gaps in knowledge, poor collab-  
95 oration and communication between systems and  
96 care providers, and inadequate legislative and pol-  
97 icy frameworks. Recommendations include creating  
98 protocols that emphasize intentional collaboration  
99 between systems, developing and implementing top-  
100 down policy and identifying sources of funding to  
101 support care coordination.

102 Another way to improve educational services for  
103 students with TBI is to ensure all students who need  
104 special education services are appropriately identi-  
105 fied. Because many students with TBI are not treated  
106 in a hospital or doctor's office, the requirement for  
107 medical documentation for special education eligibil-  
108 ity under the TBI category can prevent a child from  
109 being identified under the appropriate disability cat-  
110 egory. The use of guided credible history interviews,  
111 as explained by McCart, Unruh et al., provides a  
112 legal alternative for school-based multi-disciplinary  
113 teams to bypass the need for official medical docu-  
114 mentation in the eligibility determination process.  
115 The use of a credible history approach is strongly  
116 supported by educational administrators, general and  
117 special education teachers as well as specialists (e.g.,  
118 school psychologists, speech/language pathologists).  
119 Guided credible history interviews are now part of the  
120 official state of Oregon Administrative Rules to guide  
121 public school administrative operations and demon-  
122 strate the importance for state level legislative action  
123 to change policy to address the needs of children with  
124 TBI.

125 The need for improved inter-professional com-  
126 munication was the primary theme identified by  
127 Gomez et al. These authors conducted focus groups  
128 with caregivers, educators, healthcare providers, and  
129 athletic trainers to explore communication patterns  
130 between educators and healthcare professionals when  
131 a student returns to school post-concussion. Themes  
132 emerging from the focus groups included (a) the lack  
133 of effective and clear communication between health-  
134 care providers and school personnel, (b) parents who  
135 were strong advocates had improved communica-  
136 tion with healthcare professionals and accessed more  
137 accommodations for their children, (c) non-school  
138 professionals and families were often confused about  
139 who was the point of contact at the school, and (d)  
140 athletes with concussion have very different RTS  
141 experiences than nonathletes. Gomez et al. suggest  
142 that the RTS process would improve by increas-  
143 ing concussion education for all stakeholders and  
144 standardizing communication between medical and  
145 educational staff.

146 Because parents are significant school partners,  
147 their perceptions of schools and how they operate can  
148 be extracted to gain crucial insights into the effective-  
149 ness of the return to school process. The experiences  
150 and perspectives of parents of students with TBI in  
151 the United Kingdom are shared in Bennett et al.'s  
152 qualitative study. In this study, participants articu-  
153 lated the many challenges faced when their child  
154 returned to education (RtE). Parents emphasized the  
155 need for strong and open communication between  
156 professionals, educators, and the family. Further, they  
157 emphasize the importance of clinicians and educators  
158 holding the child and their new unique educational  
159 needs at the center of instructional planning. Their  
160 findings stress that consistent, well-defined pathways  
161 for RtE are needed, with involvement and investment  
162 from both health and education systems.

163 Empirically validated educational support pro-  
164 grams are critical for addressing the cognitive, social,  
165 behavioral, and academic issues that emerge after a  
166 TBI. Three such programs are described in the final  
167 three articles. Ciccia et al. at the School Transition  
168 after Traumatic Brain Injury (STATBI) lab, are at the  
169 baseline stage of conducting a longitudinal study to  
170 describe cognitive, social, and health outcomes for  
171 students with TBI who participate in a formal RTS  
172 project evaluating the effects of the BrainSTEPS pro-  
173 gram. Ciccia et al.'s article provides an overview of  
174 the BrainSTEPS program and a descriptive analysis  
175 of participants' baseline data before exposure to the  
176 BrainSTEPS intervention.

Avery et al. examined the effect of Return to Learn Implementation Bundle for Schools (RISE Bundle) on high school adoption of a student-centered return to learn program. Out of the 14 high schools in Washington State that enrolled, 10 successfully completed implementation. Self-reported concussion knowledge increased post intervention. The authors concluded that establishing return-to-learn (RTL) programs facilitated provision of tailored accommodations. Further, perceived variation and inequalities in RTL care, particularly in rural and urban high schools of varying sizes, were reduced.

Finally, Ippolito et al. describe the evaluation of the SCHOOLFirst website, which was designed to train Canadian pre-service teachers on how to support students who have sustained concussions. The team found that preservice teacher's knowledge and confidence surrounding the RTS process increased after using the SCHOOLFirst website. Participants also reported high levels of satisfaction with the website, as well as strong intent to use it in the future when supporting a student post-concussion. Each of these formal programs (STATBI, RISE and BrainSTEPS) show promise in improving educator knowledge and self-efficacy about TBI and demonstrate preliminary effects on improving school-based services for students with TBI.

Over the past two decades 11 states have implemented Return to School laws that mandate support for students when they return to school following TBI. There has been an abundance of research highlighting the needs of children who sustain TBI when they return to school. Additionally, there are websites, professional training, tools and instructional materials available to support professionals who support these students on a daily basis. Yet, the work by authors in this special issue address the same issues identified years ago by early researchers in childhood TBI (see, for example, Blosser & Pearson, 1997; Blosser & DePompei, 1991; Glang et al., 1997; Harris & DePompei, 1997; Ylvisaker et al., 1991). While there have been tremendous improvements in bringing awareness and training about TBI to educators in public schools, we still know very little about how to improve communication and coordinated care between schools and medical/health organizations. We also have limited understanding or information about effective interventions for students with TBI. This special issue describes many of these challenges and highlights key approaches for developing more effective support systems for these students.

As practices slowly change to align with research we must work to increase awareness and strive to improve outcomes for children with TBI.

We hope you enjoy this issue and find useful information that you can apply to your work and practice.

## References

- Babikian, T., Merkley, T., Savage, R. C., Giza, C. C., & Levin, H. (2015). Chronic aspects of pediatric traumatic brain injury: Review of the literature. *Journal of Neurotrauma*, 32(23), 1849-1860. <https://doi.org/10.1089/neu.2015.3971>
- Blosser, J. L., & DePompei, R. (1991). Preparing education professionals for meeting the needs of students with traumatic brain injury. *The Journal Of Head Trauma Rehabilitation*.
- Blosser, J., & Pearson, S. (1997). Transition Coordination for Students with Brain Injury: A Challenge Schools Can Meet. *The Journal Of Head Trauma Rehabilitation*, 12(2), 21-31.
- Children's Safety Network. (2023, February). *Non-fatal traumatic brain injury-related visits to the emergency department, U.S. infants, children, and adolescents ages 0 through 19*. <https://www.childrenssafetynetwork.org/resources/fact-sheet-tbi-among-infants-children-adolescents-treated-ed>
- DePompei, R., & Glang, A. (2018). Guest editorial: Have we made progress with educational services for students with TBI? *NeuroRehabilitation*, 42(3), 255-257. <https://doi.org/10.3233/NRE-180001>
- Dettmer, J., Ettl, D., Glang, A., & McAvoy, K. (2014). Building Statewide Infrastructure for Effective Educational Services for Students With TBI: Promising Practices and Recommendations. *The Journal Of Head Trauma Rehabilitation*, 29(3), 224-232. doi: 10.1097/HTR.0b013e3182a1cd68
- Gioia, G. A., Glang, A., Hooper, S., & Eagan Brown, B. (2015). Building statewide infrastructure for the academic support of students with mild traumatic brain injury. *J Head T*
- Glang, A., Todis, B., Thomas, C. W., Hood, D., Bedell, G., & Cockrell, J. (2008). Return to school following childhood TBI: Who gets services? *NeuroRehabilitation*, 23(6), 477-486.
- Glang, A., Todis, B., Cooley, E., Wells, J., & Voss, J. (1997). Building social networks for children and adolescents with traumatic brain injury: a school-based intervention. *Journal of Head Trauma Rehabilitation*, 12(2), 32-47.
- Haarbauer-Krupa, J., Pugh, M. J., Prager, E. M., Harmon, N., Wolfe, J., & Yaffe, K. (2021). Epidemiology of chronic effects of traumatic brain injury. *Journal of Neurotrauma*, 38(23), 3235-3247. <https://doi.org/10.1089/neu.2021.0062>
- Harris, J. R., & DePompei, R. (1997). Provision of Services for Students with Traumatic Brain Injury: A Survey of Ohio Colleges. *The Journal Of Head Trauma Rehabilitation*, 12(2), 67-77.
- Jones, K. M., Prah, P., Starkey, N., Theadom, A., Barker-Collo, S., Ameratunga, S., Feigin, V. L., & BIONIC Study Group. (2019). Longitudinal patterns of behavior, cognition, and quality of life after mild traumatic brain injury in children: BIONIC study findings. *Brain Injury*, 33(7), 884-893. <https://doi.org/10.1080/02699052.2019.1606445>
- Ylvisaker, M., Hartwick, P., & Stevens, M. (1991). School reentry following head injury: Managing the transition from hospital to school. *Journal of Head Trauma Rehabil*, 6(1), 10-22.