

Guest Editorial

Have we made progress with educational services for students with TBI?

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Each year approximately 700,000 US children ages 0–19 years sustain a traumatic brain injury (TBI) requiring hospitalization or emergency treatment (Faul, Xu, Wald, & Coronado, 2010). The numbers across the world, including those with acquired brain injury (ABI), continue to grow (Hyder, Wunderlich, Puvanachandra, Gururaj, & Kobusingye, 2007; International Paediatric Brain Injury Society, 2016). The effects of pediatric TBI and ABI are pervasive, affecting every aspect of functioning—cognitive, behavioral, and social (Barlow et al., 2010; Boake et al., 2005; Chapman et al., 2010; Ganesalingam et al., 2011; Yeates, 2010; Zaloshnja, Miller, Langlois, & Selassie, 2008). Even mild injuries to the developing brain can result in persistent neural alterations and significantly affect social and educational functioning (Sesma, Slomine, Ding, McCarthy, & the Children's Health After Trauma Study Group, 2008).

It has been over 25 years since TBI was added as a special education eligibility category under the Individual with Disabilities Education Act (IDEA) in the USA. Since that time, there has been an increasing awareness of the needs of children with TBI when they return to school. A particular focus has been on students' transition from hospital to school. This transition is a critical time for connecting students with services (Glang et al., 2008); creating

systematic transition supports at re-entry to school is an important component of effective TBI support services (Dettmer, Ettl, Glang, & McAvoy, 2014; Gioia, Glang, Hooper, & Eagan Brown, 2015; Rivara et al., 2012).

Several seminal journal issues have been devoted to the topic of transition (DePompei & Blosser, 1991, 1997), with recommendations including improved professional training for both medical and school personnel; improved epidemiological data, more effective diagnosis and treatment protocols, and increased family and community support and collaboration. Interestingly, many of the authors of this special issue address the same challenges identified years ago by early researchers in pediatric brain injury (Blosser & Pearson, 1997; Blosser & DePompei, 1991; Glang, Todis, Cooley, Wells, & Voss, 1997; Harris & DePompei, 1997; Ylvisaker, Hartwick, & Stevens, 1991). Although many positive changes have resulted from the work that was completed, many challenges remain.

In this special issue of *NeuroRehabilitation*, we asked leading researchers in the field of pediatric brain injury across the world to address transition from their viewpoint. Specifically, they were asked to identify today's key issues in supporting children and youth with brain injury. Using qualitative and quantitative methods, the authors address the topic of transition from a range of perspectives. In each article, there is a clear call for ongoing research on supporting students with TBI in the school setting.

A number of suggestions emerge from this issue. First, preschool children should be considered as candidates for support of emotional, behavioral,

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cognitive and language development. Haarbauer-Krupa et al. report on a study conducted with children who were injured as preschoolers, and review the challenges observed and services offered prior to entering school. They conclude that many services that were available were not accessed and recommend better transition and communication among parents, hospital and school personnel.

Second, there is a need for improved communication and seamless transitions between hospital and school and provision of information to teachers about how to screen, place and support these students. In their qualitative study of the transition from hospital to school, Todis et al. explore transition services—what they consist of, how they are delivered, and how they are received by educators. The study's findings suggest that students would be better served if there was more consistent and specific communication between hospital and school, long-term tracking of the injury, and increased training of educators in how to meet the needs of students with TBI.

Greene and Sample conducted a phenomenological case study of nine school districts to investigate whether changes in the special education eligibility process could lead to more readily identifying these students to provide appropriate special education supports. Most children with TBI rely on schools rather than medical settings for rehabilitation services, and the under-identification of children with TBI presents a significant obstacle to the provision of effective services. Greene and Sample's findings suggest that there are significant barriers that cause concern over whether the legislative and policy changes have been beneficial.

The focus of the article by Kahn et al. was an in-depth, international examination of teachers' experiences and knowledge surrounding support of students who have experienced a TBI. In their qualitative study, teachers from Australia, New Zealand, Northern Ireland, and the United States lacked knowledge about this population and reported filling in their knowledge gaps with information about working with students with other disabilities, and with their own personal experiences.

Nagele et al. tackle the important topic of systematic screening to identify and serve children who may have sustained a brain injury. Undiagnosed brain injury may lead to mood or behavior disorders, learning problems in school, and unsuccessful transition to adult roles. They describe available screening tools and provide recommendations for implementation

of brain injury screening in schools, primary care, mental health, and juvenile justice settings.

The availability of evidence-based educational interventions for students with brain injury is the topic of the review article by Linden et al. Their results showed no statistically significant differences between the intervention and control conditions on academic attainment in any of the studies. The authors emphasize that a clear focus for future research should be rigorously tested educational interventions.

McAvoy et al. discuss return to learn accommodation options after concussion. Recommendations for interventions after a concussion are a focus of many articles and web sites. Unfortunately, some well-intended recommendations do not work well for concussed students because regulations in schools prevent immediate supports that can be in place if correct tier interventions are suggested instead of always asking for an individualized education program (IEP). The educational tiers that can be used are outlined so adequate recommendations can be suggested.

Other factors are critical to successful learning and transition to adulthood. Social communication is a vital aspect of successful learning that allows for the student to respond adequately in school and community and leads to successful adult interactions in home, school, and community. Ciccia et al. provide a review of the literature that addresses these aspects of social communication. They highlight both the progress that has been made in understanding social communication deficits in pediatric TBI and the critical need for basic and translational research in assessment and intervention.

Community based interventions also have a significant role to play for adolescents and young adults who seek successful integration. Clasby et al. provide a systematic review of community based rehabilitation intervention programs to determine what intervention programs exist for teens and young adults. They found thirteen studies of interest with nine different intervention strategies. Thirteen studies were identified for inclusion in the review, of these nine distinct interventions were found. Results suggest some improvement in adolescent outcomes following community-based interventions, however higher quality evidence is needed to support specific interventions.

Transition from high school to college is often difficult and many students are unsuccessful with attempts to do so. Kennedy et al outline a series of cases that provide insight into how supports

during the transition from high school to college can be provided. They describe how semi-structured interview responses can be used to identify the type and specificity of self-regulation strategies in college students. They provide case studies that demonstrate how interview responses lead to student-centered goals that are created collaboratively between students and professionals.

Over the past 25 years, many influential changes have occurred to address challenges that are addressed in this issue on transition in the school environment. Today, there are national mandates for supports, agencies that have a focus on pediatric TBI, websites with well-documented instructional materials and many well-prepared professionals who support these students on a daily basis. However, many of the same challenges identified in the 1990s still exist today across the world. This special issue describes many of these challenges and highlights key approaches for developing more effective supports for these students. One of the most glaring gaps is the absence of research that identifies policies and practices that have been shown to improve outcomes for students with TBI. As we wait for the research to practice gap to narrow, we must implement promising practices across settings to improve outcomes for children with brain injury. We hope you enjoy this issue and find useful information that you can apply in your work.

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