



Hard knocks

Susan Davies has seen up-close the impact of concussions on children — on a student's ability to learn and on educators unequipped to address the brain's measured healing. The UD associate professor is now educating others to create a community of care that helps students return to learn.



BY SHANNON SHELTON MILLER



Since the school year began, 14 students had visited Kim LaScola's office at Hudson Middle School near Akron, Ohio, with concussions — heads banged in football games or knocked around during classroom horseplay. And it was just October.

As the school nurse and a registered nurse at Akron Children's Hospital, LaScola understands the protocol for recognizing traumatic brain injury and developing post-injury progress plans for her students. She says her word alone, however, often isn't enough to convince teachers that recovering students might require additional academic assistance when they return to the classroom.

"I need a doctor's order that says Joey can't take this test," she said with exasperation to a group of colleagues from Akron Children's Hospital, all of whom traveled to Columbus one October afternoon for a training session on managing concussions in school settings.

Such stories are familiar to the session's presenter, Susan Davies, an associate professor of counselor education and human services in the School of Education and Health Sciences. In her two decades of experience as a school psychologist, she has seen the consequences of concussions left unaddressed. She is now using her faculty research to educate those who work in schools with students — as well as the parents and students themselves — to identify injuries, acknowledge their myriad impacts and create a community of care to help the students return to learn.

When Davies worked in the Oak Hills Local School District in suburban Cincinnati and the Cincinnati Public Schools as a school psychologist during a five-year period, she saw the adverse effects of traumatic brain injury among her students' ability to learn. They experienced persistent learning and behavioral difficulties after sustaining a brain injury, she said, but "because educators weren't often well-trained in identifying and understanding brain injuries, these students were not receiv-

ing the school-based supports and services they needed in order to be successful."

Davies is working to change that paradigm. During the October session sponsored by the Ohio Department of Health, she offered school-based professionals and health care providers training they can take back to their schools, districts and regions — "training the trainers," she says, who will then multiply the impact of her sessions.

Even though students might look fine from a physical standpoint, debilitating effects such as fatigue, concentration difficulties and memory problems can linger well after the initial hit. The Centers for Disease Control and Prevention estimated that in 2010, approximately 2.5 million emergency room visits, hospitalizations or deaths were associated with traumatic brain injuries. About 75 percent were concussions — mild traumatic brain injuries that occur due to bumps or blows to the head or body that cause the head to move rapidly back and forth.

Despite its medical designation as "mild," Davies stresses that a concussion diagnosis that includes the word "traumatic" indicates the seriousness of the injury, especially considering the frequency in which they occur. Close to 250,000 children in 2009 were treated in U.S. hospitals for sports and recreation-related injuries that included a concussion diagnosis.

"It's really a public health issue," said Davies, the founder and coordinator of the National Association of School Psychologists Traumatic Brain Injury Interest Group. In 2016, she won the University's Faculty Award in Scholarship from the UD Alumni Association.

"If we respond appropriately and we set those appropriate academic and environmental adjustments in place as soon as students return to school, they can recover quite quickly. On the other hand, if students come back to an educational environment that is not understanding their unique needs, it can really do some physical damage and prolong their recovery."

Davies often uses what she calls the broken-leg analogy to make her point even more clear.

"You're not going to put someone with a broken leg back in PE class, so likewise, if you have a child who's coming back to school — and they can come back to school if they have symptoms — but they're still experiencing headaches or light sensitivity and things like that, you shouldn't be making them do a half day of standardized testing and then go to a pep rally," Davies said.

School-based professionals with education and health care backgrounds, like LaScola, understand this. So did most of the 40-plus educators, psychologists, Ohio State Support Team members, physical trainers, injury prevention coordinators and others assembled at the Ohio Department of Natural Resources complex to hear Davies' presentation. It was up to them, however, to bring that information back to their schools, their communities and their Ohio Department of Education regions to develop a team-based model to ensure their students could safely and effectively return to the classroom.

COMMUNITY OF CARE

Damien was an eighth-grade boy who was in a car accident that resulted in a broken leg, numerous cuts and abrasions, and a concussion. His family, teachers and medical providers tended to focus first and foremost on his visible injuries. However, Damien was also struggling with concussion symptoms that made the transition back to school particularly difficult. The night before he returned to school, it took Damien several hours to fall asleep. He had a terrible headache and was filled with anxiety about what to say to people and how to catch up on all the schoolwork he had missed.

"Damien" isn't a real student, and his full "story" is one of the case studies Davies presents at training sessions and uses for analysis in her book, *Managing Concussions in Schools: A Guide to Recognition, Response, and Leadership*. Readers and participants are asked to discuss the warning signs students exhibit that indicate the need for educational adjustments and the issues school staff should recognize and respond to in such cases.

All of the examples presented could easily be composites of scenarios school staff face on



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a regular basis, including Davies during her career as a school psychologist.

"During my first year, I had a couple of cases where the students were presenting with unusual profiles, unusual patterns of strengths and weaknesses," she said. "After delving a little deeper into their medical histories and some other things I'd learned in my own training, I'd learned they'd had previous traumatic brain injuries that weren't revisited in their educational evaluations that happened before I came on the scene."

Teachers kept flagging those children for potential learning disabilities or cognitive delays, but they weren't qualifying for special educational services, Davies said. After all, the children had recovered physically. They seemed just fine.

A more detailed parent interview revealed past incidences of traumatic brain injury that hadn't been reported to the school system.

"One of the girls I evaluated had been hit by a car when she was 2," Davies said. "Everyone was very excited when she recovered, but when she started school, some of the repercussions only became evident when she needed to sustain attention for longer periods of time and engage in more complex social situations. She actually presented as a typical student who had a traumatic brain injury, but because it had happened in preschool, it really wasn't on our school's radar."

When Davies began pursuing a doctorate in school psychology, she said she "made it her mission" to use her dissertation research to help teams of school professionals better understand brain injuries and how they could present in different ways. There were emotional, social and behavioral issues that often manifested, in addition to academic difficulties.

Immediate identification and treatment

for the concussion is the first step. That's taking place more often thanks to increased awareness of the danger of brain injury and the need for a quick response although nearly 33 percent of concussions in athletes go unreported, according to a paper in the *Clinical Journal of Sport Medicine*.

What follows is just as critical, which is why Davies developed a concussion team model to ensure students' return to educational settings happen as safely as possible without long-term damage.

One person is designated as the concussion team leader, or central communicator. This person could be a school nurse, school psychologist, counselor or administrator. He or she is responsible for receiving the injury reports and managing the documented return-to-learn process everyone else will follow.

The student (or parent, for a younger

child) should clearly communicate her symptoms, educational struggles and concerns, and the parent should help the child adhere to the plan while submitting any medical notes or instructions to the school. Academic team members should follow guidelines for recommended academic adjustments to excuse a student from a test or allow a student to opt out of activities that require extensive computer or tablet use, for example, as light sensitivity often follows traumatic brain injury.

School psychologists, counselors and speech language pathologists can work as consultants for more complicated cases and help create the plans that include explanations for certain academic adjustments. The medical team members provide the diagnosis and management of the injuries, while a school nurse can monitor in-school symptoms and help evaluate whether or not a student should stay in school or receive academic adjustments.

Athletic team members would manage the student's return to the practice and playing field.

For the plan to unfold successfully, all team members have to maintain consistent communication, using the concussion team leader as a focal point.

"My strategy with schools for concussion cases is helping them understand that if they have the right supports and adjustments to the workload and academic environments in place, those kids can get better in a few days or weeks," Davies said. "Occasionally you'll have kids who'll have persisting problems beyond a couple of months, but that's not as common."

HIDDEN TRAUMA

Although managing traumatic brain injury in school settings has been Davies' area of research for more than 10 years, she's seen an uptick in interest during the last five with the national attention on sports-related concussions, particularly among football and soccer players. Laws requiring return-to-play proto-

col exist in all 50 states for student athletes, and school-based and recreational coaches receive concussion recognition and management training. Parents also receive that protocol when signing up their children for sports.

While athletic personnel play an important role in Davies' concussion team model, she says traumatic brain injury is more likely to occur in more routine settings. General recreational activities, playground injuries and bicycle accidents are leading causes of concussion, especially among younger children. Abuse at home is also a culprit.

"You can't forget about these kids who've fallen, been in fights or been in car accidents," she said. "Concussions aren't just a sports thing."

LaScola, the Hudson Middle School nurse, has even seen students who sustained concussions from plain old "horsing around" and bumping heads, hitting their heads on walls or crashing into bleachers during a game in physical education class.

This is why Davies wants all school staff and educational personnel to be aware of the importance of recognizing and responding to concussions — young children are at high risk. The underdevelopment of the younger brain and a physical stature that makes young children's heads and brains proportionally larger than the rest of their bodies make them more susceptible to brain injury compared to adults, Davies said. Developing motor skills and mobility also contribute to that risk.

But making the link between a child's fall from the monkey bars and her lack of attention in a kindergarten class doesn't often happen in a school setting, to that child's detriment.

"In comparison to students who sustain severe brain injuries, students who sustain concussions aren't necessarily going to be experiencing prolonged, severe academic and behavioral issues," Davies said. "They're not likely going to qualify for special education, but schools need to know what to do with them, too."

Ideally, the student would be getting enough rest and sleep following the injury, and limit physical and cognitive activity during that period. While students usually get physical rest, Davies stresses the importance of resting the brain, a step more likely to be neglected in the process. Schoolwork and technology access should be limited. Students who stay home from school should avoid extensive computer, video game, television and smartphone use. Such activities can prolong the healing process and even exacerbate symptoms, she said.

Easier said than done, said some of the attendees in Columbus.

"It's a constant fight," said LaScola, noting that tablets and other handheld devices are frequently a requirement in the classroom. Resistance often comes from students and other members who should be key parts of the team model.

Returning to school should be a gradual process, going from partial day attendance to full-day attendance with some academic adjustments (limited tests and homework), full-day attendance with no academic limitations and only physical limitations, and finally, full school participation, including extracurriculars.

"If you do the right things, concussion symptoms will get better," Davies said. "If you don't, students can have protracted recovery and, should they sustain a second concussion before the first has resolved, that's really when we see the potential for more permanent impairment. We really want to create that community of care around the students."

SPREADING THE WORD

The attendees at the Ohio Department of Health workshop didn't doubt the value of Davies' presentation and the team model approach to helping their students return successfully to academic and extracurricular activity. Assembling the team, however, was more of a struggle.

"This isn't a priority for a lot of teachers," said Megan Trowbridge, a state support team member specializing in assistive technology. She attended with Erin Oleen, another state support team specialist in accommodations, modifications and alternate assessment. They serve Region 14, a mostly rural area of Southern Ohio between Columbus and Cincinnati. (Ohio's schools are divided into 16 regions.)

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Trowbridge and Oleen said they share information with schools in their regions but still have trouble emphasizing the importance of the team model for helping students recover from brain injury. For their area, the distance between schools and medical centers hamper the communication process, and a lack of resources also presents hurdles.

Because it's impossible for Davies to make site visits to all interested communities, she hopes to train as many State Support Team

members as possible so they can then lead the training sessions for their regions. She's also created online trainings through the Ohio Department of Health project, and a University of Dayton graduate student, Maria Tedesco, is completing her graduate research on the effectiveness of online training programs.

Tedesco is studying the efficacy of an online training that Davies developed, which integrates information from existing programs, including the Centers for Disease Control's Heads Up program and Columbus' Nationwide Children's Hospital's Concussion Clinic Resources for Education, and piloted the training in nine Ohio schools. She gathered background information about participants' role in their schools and past concussion training and experience. The assessment included questions related to concussion knowledge, recognition and response, and Tedesco is completing data collection to determine the training's effectiveness.

Another of Davies' graduate assistants, Allie Hundley, is completing trainings in low-income settings. She received a grant from the Ohio Injury Prevention Program to conduct sessions with parents of preschoolers in Head Start programs to recognize and respond to head injuries. All parents receive

Tips for parents and guardians

■ If your child suffers an injury, watch for signs of concussion. These can include appearing dazed or confused, exhibiting behavior or personality changes, or repeating questions.*

■ If your child is diagnosed with a concussion, submit medical instructions and doctor's notes to the school in a timely manner.

■ For students requiring a return-to-learn plan, request a concussion team approach.

■ Work with the concussion team leader to ensure necessary adjustments are being made. Become an advocate for your child's plan.

■ Be vigilant about adhering to the plan at home, including limiting screen time.

Tips for school professionals

■ Be aware of symptoms of a concussion, both those that occur shortly following the injury and those that can impact learning days to years later.*

■ Educate yourself about the team approach to care and learn how it works in your school.

■ As a concussion team member, help facilitate communications between the parents, students, other team members and medical providers to ensure adherence to the adjustments required to help to students heal.

*For a complete list, visit the Centers for Disease Control and Prevention at www.cdc.gov/traumaticbraininjury/symptoms.html.

slept a lot, reported constant headaches and had weak academic performance.

"Really nothing was sinking in," she said.

The young man's mother was his advocate, calling to wake him up and explaining his situation to professors, but Davies worked to get him a graduate student "coach" who could help him learn to self-advocate.

"I can't imagine being an 18- or 19-year-old college student and getting a brain injury, because one of the effects of a brain injury is im-

paired self-awareness and impaired judgment," Davies said. "When you are still just a couple of years fresh out of your parents' house and you're living away from home and you have a roommate, how can you take care of that?"

She's also taught one of her graduate students to conduct trainings for resident assistants at UD and workers at RecPlex to develop skills in concussion recognition and response, and help the broader campus community — including disabilities services offices and students in general — gain greater understanding of brain injury.

"I do a lot of training of the trainers, because they're the ones who have the credibility in their school buildings," Davies says. "Those parents and teachers and their school don't know me, but if I can train their trusted school psychologist or their school nurse to go in and help set up a concussion management team, it's kind of an efficient way of outreach."

The 40-plus attendees at Davies' October training were a start. So were the parents who picked up a helmet from one of Hundley's sessions and the educators who completed one of Tedesco's online training modules. Each one is contributing to the community of care, becoming part of the team to help students return to learn. **UD**