National network aims to ease agonizing decisions about abuse

Dr. Kent Hymel is still haunted by a landmark 1999 study showing that abuse often goes undetected in children with head injuries. That’s why he’s devoted his career to finding ways to prevent such misdiagnoses. As the medical director for DHMC’s Child Advocacy and Protection Program (CAPP), Hymel has taken the first steps toward achieving that goal by establishing the Pediatric Brain Injury Research Network (PediBIRN). The aim of PediBIRN is to develop a tool called a clinical prediction rule, which doctors can use when trying to decide if a head injury was caused by abuse rather than an accident.

Wrongly labeling a family as abusive can leave emotional scars.

Team: Hymel, who has testified over 150 times, says CAPP takes much of this pressure off physicians and distributes it across an interdisciplinary team. DHMC’s CAPP team collaborates with experts in emergency medicine, neurosurgery, neurology, intensive care, psychiatry, social work, and law. Hymel finds it rewarding to work with other specialists to come to a “unifying explanation” of what happened in a particular case.

One such specialist is Dr. Ann-Christine Duhaime, a pediatric neurosurgeon who studies brain injuries caused by head trauma. “Our research,” she says, “has shown that 24% of all admissions for head injury in children under two years of age result from non-accidental trauma.” But figuring out the cause of brain injuries in children is “challenging and even impossible,” she adds, especially “when the history is incomplete and the events were unwitnessed.”

That’s where data can help. A pilot PediBIRN study, published in Pediatrics, found that the deeper a brain injury, the more likely the patient was to meet the criteria for abuse, while the more superficial an injury, the less likely that was the case. The correlation—drawn from 54 infants and children age three and younger at nine different sites—turns out to have strong predictive value, says Hymel.

The clinical prediction rule probably won’t be able to exclude or confirm abuse, but instead will identify common characteristics in children whose head injuries have been inflicted by others. That will “help physicians to recognize abusive head trauma masquerading as accidental,” he explains.

Damage: That’s all in a day’s work for Hymel. A “good day” for him is when he sees a child whose injuries will not cause permanent damage. “That means they’re going to get better, hopefully they’re not going to get reinjured, and the family’s going to get some help,” he says. “The best day,” he adds, “is when people have assumed abuse and I can convince myself, and others, that it wasn’t—then a family is not labeled as abusive. That is the greatest joy of all.”

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