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The Traumatic Brain Injury Model System in Philadelphia: A Jefferson Health System Partnership

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The Traumatic Brain Injury Model System in Philadelphia: A Jefferson Health System Partnership

Traumatic brain injury (TBI) is a major health problem in the United States, leaving some 80,000 to 90,000 new persons per year with permanent disability.¹ Among the main causes of TBI are motor vehicle accidents and interpersonal violence, both of which disproportionately affect young adults, and falls, which are more common in the elderly. The disabilities associated with TBI are complex and lifelong, involving impairments in cognitive, physical, behavioral and emotional function, which interact to negatively affect family and social relationships, as well as productivity in work and school.² Owing to this complexity, TBI requires highly coordinated clinical services and sophisticated research to advance understanding and prediction of outcomes and to develop new and effective treatments.

To address the needs of this challenging disability, the National Institute on Disability and Rehabilitation Research (NIDRR), U.S. Department of Education, has funded TBI Model Systems since 1987. Model Systems are centers of excellence for medical care, rehabilitation and research devoted to a specific disability group. These centers collect longitudinal data on participants from the day of injury through long-term follow-up. The data is contributed to a national database used for characterizing the population and for outcomes research.³

Based upon the outstanding clinical continuum of care for TBI in MossRehab's Drucker Brain Injury Center and the research capabilities of the Moss Rehabilitation Research Institute, Moss was awarded a 5-year TBI Model System grant in 1997 under the direction of John Whyte, MD, PhD, and Tessa Hart, PhD. Among the accomplishments of this project were two major regional conferences targeted to consumer needs and numerous scientific publications and presentations. For example, Moss authors contributed several papers to the February 2003 issue of *Archives of Physical Medicine and Rehabilitation*, which was devoted to TBI outcomes. In these and other Model System project publications, we have reported data to suggest that educational level and mental flexibility are more important than memory function in predicting supervision needs after TBI,⁴ that high-tech evaluation of motor dysfunction contributes significantly to treatment planning over and above the clinical judgment of expert surgeons,⁵ and that portable voice organizers may be helpful in helping persons with TBI to remember their therapy goals.⁶ Moss scientists have also developed and begun validation of a new attention rating scale⁷ and are exploring the phenomenon of impaired self-awareness of deficit after TBI.^{8,9}

When the TBI Model System grant program was funded again for 2002-2007, collaboration within the Jefferson Health System (JHS) was enhanced when Moss's successful application included Magee Rehabilitation as a clinical data collection site. This collaboration capitalizes both on Magee's history as a comprehensive TBI treatment site and also on its 25 years' experience as a partner with Thomas Jefferson University Hospital (TJUH) in the Regional Spinal Cord Injury (SCI) Center of Delaware Valley, one of the 16 SCI Model Systems in the U.S. Other JHS partners in the new TBI Model System include TJUH, Albert Einstein Medical Center, and Frankford-Torresdale Hospital, all of which participate by providing medical and cost data on patients enrolled in the longitudinal national database from either Moss or

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Magee. Other acute care partners include Cooper Health System, Medical College of Pennsylvania, Hahnemann University Hospital, and Temple University Hospital.

In addition to its plans for collaboration within JHS, the new TBI Model System of Philadelphia has an ambitious plan of research, extensive consumer involvement and education efforts through a new collaboration with the Brain Injury Association of Pennsylvania and continued collaboration with other TBI Model System centers nationwide.

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