Commentary

The SCIRehab project: analyzing multidisciplinary inpatient spinal cord injury rehabilitation treatment — second phase

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The SCIRehab Project is designed to identify which of the many interventions comprising spinal cord injury (SCI) inpatient rehabilitation are associated most strongly with positive outcomes at 1 year post-injury after controlling for patient and injury characteristics. The first phase of the study (2007–2008) was devoted to developing treatment taxonomies to classify interventions provided by each discipline represented on the rehabilitation team and implementing an electronic data system to capture the details of each treatment session provided by each SCI clinician. This project phase was documented in a series of 10 manuscripts published in the June 2009 issue of the Journal of Spinal Cord Medicine.[1–10]

The second phase of SCIRehab involves the analysis of treatment provided by each rehabilitation discipline. These treatment data were collected by means of the project-specific electronic data capture system and supplemented by ongoing medical record abstraction and post-discharge patient interviews. The following series of manuscripts offer an overview of the multidisciplinary SCI rehabilitation process[11] and a detailed analysis of treatments provided by physical therapy,[12] occupational therapy,[13] therapeutic recreation,[14] speech language pathology,[15] psychology,[16] nursing,[17] and social work/case management.[18] The data presented cover interventions received by the 600 patients enrolled during the first year of the SCIRehab Project at six collaborating SCI rehabilitation facilities led by Craig Hospital, Englewood, CO and including Carolinas Rehabilitation, Charlotte, NC; The Mount Sinai Medical Center, New York, NY; National Rehabilitation Hospital, Washington, DC; Rehabilitation Institute of Chicago, Chicago, IL; and Shepherd Center, Atlanta, GA.

A total of 141 938 treatment sessions are included in the 107 804 hours of therapy and education analyzed in this series of articles. Tables report the amount of inpatient rehabilitation treatment time provided to patients with SCI and to four subgroups based on level and completeness of injury, by each discipline overall and for 87 specific activities defining the work of the seven disciplines. Graphs depict the substantial variation found in the amount and type of treatment received across the study sample. Regression analyses are used to indicate the degree to which patient and injury characteristics are predictive of treatment time.

The SCIRehab Project is the first to document this level of detail about exactly what occurs in the SCI rehabilitation process. The 'black box' has been opened to reveal the workings of the rehabilitation team in their many and varied interactions with patients. The treatment time data presented may be useful in resource planning and development for SCI rehabilitation programs. The substantial variability in treatment patterns found calls into question the existence of a single standard of care in SCI rehabilitation; the variation is not well explained by differences in patient and injury characteristics, which might offer reasonable explanations, e.g. level of injury and severity of comorbidities. While it should not surprise anyone that differences in practice patterns are found in SCI rehabilitation, the magnitude of the variation documented in these reports is notable.

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Variation in treatment patterns, however, bodes well for the ultimate success of practice-based evidence methodology, which aims to identify elements of treatment processes most strongly associated with positive outcomes. A comprehensive examination of the relationships among treatment patterns and outcomes, after controlling for patient and injury differences, across the entire sample of 1379 patients who have been enrolled, will be the focus of the third and final phase of the SCIRehab Project. In the mean time, the information provided by the papers in this issue should inform anyone with an interest in SCI rehabilitation.

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