Commentary: Toward a More Rational System for Delivering Pediatric Neuropsychological Services

Deborah P. Waber, PhD

Department of Psychiatry, Boston Children’s Hospital, Harvard Medical School

All correspondence concerning this article should be addressed to Deborah P. Waber, Department of Psychiatry, Boston Children’s Hospital, 300 Longwood Avenue, Boston, MA 02115. E-mail: deborah.waber@childrens.harvard.edu

Received March 1, 2017; revisions received March 1, 2017; accepted March 3, 2017

Key words: Neuropsychology; Assessment; Health Care Services.

Chronic and acute medical conditions of childhood often affect the brain and its functional development, with varying outcomes and varying degrees of severity. These conditions include not only neurological and neurogenetic disorders, but also medical conditions and their treatments. With growing awareness of these risks has come growing demand for pediatric neuropsychology services, raising its own set of concerns.

In the current issue, Hardy et al. present a thoughtful and provocative Topical Review, entitled “A Prevention-Based Model of Neuropsychological Assessment for Children with Medical Illness.” They argue that too often referral to neuropsychology occurs after problems have arisen and become clinically worrisome, rather than earlier in the developmental process when prevention strategies might mitigate sequelae. For some conditions, such as brain tumor or stroke, the likelihood of serious neuropsychological sequelae is predictably high, whereas for others, such as leukemia or diabetes, outcomes are less predictable. In these more ambiguous situations in particular, a reliable and valid strategy for identifying children at greater risk would be an important advance.

In addition to the concerns about prevention, the review is relevant more broadly to the current system of delivering neuropsychological services. Despite the evolution of health care delivery models over the years, the model of providing neuropsychological services has remained relatively static. Most often, a physician or parent makes a referral to the neuropsychologist, generally on the basis of some clinical appraisal of perceived need or a practice pattern, after which the child typically receives a comprehensive evaluation, with many hours of testing, yielding a lengthy and detailed report. Referral for services, however, can also depend on a variety of factors apart from the child’s actual functioning, such as the attitudes and experience of individual medical personnel, the advocacy skills of parents, or the policies of insurance carriers. Thus, for some children, this extensive evaluation may be necessary, others may not need such an intensive approach, while still others who need it may not gain access.

As a result of this somewhat ad hoc model, in many settings the neuropsychology resources do not meet the perceived need, leading to long wait lists, demands for increased staff, and/or the inability of children with greater need to receive services in a timely fashion. Too often, determination of need falls to insurance carriers, who impose seemingly arbitrary criteria without regard for individual considerations. They reimburse not for quality or outcomes, but for procedures, potentially rewarding extensive and perhaps unnecessary testing that can be more reliably documented than expertise or benefit.

It is within this context that this Topical Review proposes a systematic, tiered model for delivering neuropsychological services, applying principles from public health and assessment utility to the practice of pediatric neuropsychological assessment. The review argues for universal monitoring in medical clinics by nonpsychologist professionals, using questionnaires and computer-based instruments, to identify risk early in a child’s medical course, as well as to conduct ongoing monitoring of behavior and cognition. Those meeting certain criteria can be referred for a more
detailed (2–3 hr) screening evaluation by a neuropsychologist or, if warranted, a comprehensive assessment. In proposing this model, the authors suggest what potentially amounts to a radical reconsideration of the current model of pediatric neuropsychology services, in particular the all-day or multi-day assessment as the standard of care for most referrals, with a raft of testing followed by a compendious report, much of which may never be read. It argues that such evaluations, while necessary in some cases, should be reserved for those individuals with empirically justified need.

The issues raised by this review merit thoughtful debate and discussion, especially in health care settings where access can be a significant issue and insurance carriers are seeking strategies to reduce what they deem to be unnecessary services. Every child with a particular medical diagnosis may be at some risk, but not every child needs the resource intensive comprehensive evaluation, although as the authors state, “there will always be a need for some children to undergo comprehensive neuropsychological evaluation.” Making these determinations in a systematic, empirically justified and equitable manner will be essential.

Every innovation raises new considerations, however, and the proposed model provokes many questions that beg to be addressed, such as the following:

1. What should be the “gold standard” against which monitoring would be evaluated? How can the extensive findings of a typical comprehensive evaluation be reduced to define a threshold of impairment against which a monitoring or screening procedure could be evaluated for both sensitivity and specificity?

2. What components of a monitoring battery are necessary and how intensive need it be? For example, to what extent do the computer-based measures, which increase staff burden, meaningfully augment questionnaires in identifying risk?

3. What external factors would moderate interpretation of these monitoring assessments and who will be responsible for decision making? For example, one child might meet criteria for “high risk” based on scores from the monitoring assessment, yet might have received a competent school evaluation and an appropriate special education plan, whereas another with the same findings might be struggling at school with inadequate educational services. Test scores cannot be automatic gatekeepers, and the neuropsychologist will thus serve a critical consultant role.

4. Should insurance carriers be recruited as partners in developing these models, which could provide a more rational basis for determining need while satisfying providers’ desire for more clinically acceptable method for doing so?

5. What role should schools play? They typically do considerable testing at parent or teacher request. How should their input be integrated into a system such as this and to what extent can school testing serve as an ancillary resource?

6. What are the implications for training neuropsychologists, who in the proposed model would increasingly function as consultants, rather than primarily as testers? The current training model typically emphasizes testing and report writing, whereas in the proposed model the neuropsychologist will integrate, infer, and, particularly at the “screening” level, render a diagnosis and give recommendations based on a relatively brief and targeted assessment.

7. Can such a model be expanded beyond the medical setting to address developmental disorders, such as attention deficit hyperactivity disorder, autism spectrum disorders and learning disorders, where monitoring could be implemented in general pediatric practices?

Contemporary pediatric neuropsychology needs to address these issues as a discipline. As this Topical Review illustrates, the seeds of innovation are sprouting in a few specialty areas, but the questions raised are important and require broader consideration and openness to change, wherever that may lead.