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The financial contribution of the multiple sclerosis specialist

James N. Goldenberg, MD: I read Dr. Berger's[1] article with interest. The description of the money a physician spends on patient care as a contribution is concerning, particularly as we focus more than ever on excessive health care spending in the United States. The accounting definition of contribution is the amount of earnings remaining after all direct costs have been subtracted from revenue.[2] The brief acknowledgement at the end of the article that the true contribution margin cannot be calculated is too little, too late. In the era of value-based medicine, the value of a neurologist can only be calculated when the cost of care is compared to quality.[3] Currently the clear majority of health care payments to institutions and physicians are tied to value and quality and the trend will continue.[4] The detailed calculations performed in this article serve only to draw attention to the high expense associated with multiple sclerosis (MS) care, a fact that is already well-established in the literature and lay press. A more interesting exercise would be to try to show that MS care can be delivered efficiently (at lower cost) and effectively (with better outcomes) by academic health centers.

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Josh Torgovnick, MD: I read the article by Dr. Berger[1] with interest. The United States already has the most expensive medical care in the world without a comparable improvement in outcome. The revised McDonald criteria are clear about the evaluation after 2 attacks: if dissemination in space and time and objective evidence of 1 lesion and good history for a second are present, no further testing is necessary.[5] With a spinal cord lesion, a pattern-shift visual evoked response might be useful, but I disagree with using a battery of evoked potential tests. Lumbar puncture should no longer be needed if history and MRI are typical. It is textbook[6] that oral steroids, 1,250 mg of prednisone, are equivalent to 1 g of Solu-Medrol, and patients can carry this on vacations or other travel and not need to be hampered by IVs. A baseline optical coherence tomography is reasonable but no one knows how often to repeat it. Many patients with MS do not progress[7] and identifying that group is more important than the financial benefits of which Dr. Berger speaks. Finally, the history and physical live on and tests are still extensions of these.

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Author Responds: **Joseph R. Berger, MD:** Both Dr. Goldenberg and Dr. Torgovnick are correct in asserting that the cost of medical care in the United States is astronomical and that the cost of care should correlate with outcomes and quality of care. However, that is not where the state of medicine is in the United States. Performing such a study for the MS population is no small undertaking and I would challenge anyone to provide a format to do so with the available data.

Health care systems are justifiably concerned about their bottom line. This analysis was performed in an effort to demonstrate that the MS specialist, often undervalued, contributes substantially to the financial well-being of the institution with which he or she is associated.[1] These data provide a framework for physicians providing MS care to negotiate with hospital administrators to provide adequate resources for their programs similar to that provided for cancer care and neurosurgery in light of their well-recognized financial contributions.

As a strong advocate of the value of a "hammer swinging" neurologic examination,[8] I agree fully with Dr. Torgovnick's assertion that not every test is required in assessing patients for

MS. The studies performed were estimations of what is done in a large academic MS center where patients, often with unusual features, present for a second or third opinion regarding the accuracy of the diagnosis. Therefore, it is likely that the percentage of tests employed for the new patient is higher than in a community practice.

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Anton syndrome as a result of MS exacerbation

Nitin K. Sethi, MD: I read with interest the case report by Kim et al.[1] detailing Anton syndrome (AS) in a patient with multiple sclerosis. Apart from visual anosognosia, confabulation is an important symptom of AS. It is important to remember that AS on occasion may be associated with Charles Bonnet syndrome characterized by visual loss and hallucinations. Apart from imaging, cortical blindness with preserved pupillary reaction to light and accommodation, intact ocular movements, normal optic fundi, absent visual evoked potential, and absent optokinetic nystagmus may all aid in securing a clinical diagnosis of AS.[2,3]

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Disclosures: N. Sethi serves as Associate Editor of *The Eastern Journal of Neurology*.

Author Responds: **Nina H. Kim, MD:** We thank Dr. Sethi for his interest in our case report.[1] Cortical blindness can be ascertained by the examinations that Dr. Sethi highlights. It is also important that the patient is able to speak (and confabulate) to determine the diagnosis. AS is considered to be one of the disconnection syndromes that results in the fascinating phenomena of confabulation.

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Disclosures: N. Kim holds stock/stock options in Natus.

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Preoperative evaluation for epilepsy surgery: Process improvement

Nitin K. Sethi, MD: I read with interest the results of the Drees et al.[1] study and agree with the process improvements highlighted to reduce the time for epilepsy surgery (ES) evaluation. My personal experience working in a level IV comprehensive epilepsy center has been as follows. Potential ES patients are identified relatively early and time for ES evaluation is relatively short provided patients are seen in the office practice setting of individual epileptologists. Patients seen in this setting tend to be more involved in their care, they have commercial medical insurance, and the treating epileptologist assumes care of these patients. Potential ES patients who are seen in the resident/fellow clinic setting experience the longest delay to ES. Patients and caregivers seen in this setting tend to be less involved in their care, may have a lower education status, usually lack commercial insurance, and no physician truly assumes the care of these patients. The patients are seen by residents and fellows and staffed by the attending epileptologist who is covering the clinic that week. On the next visit, it is not uncommon for the patient and caregiver to meet an altogether different epilepsy care team. Maintaining a database of all potential ES patients and having a nurse navigator who keeps track of the status of all the patients in this database should help streamline the process and reduce the ES evaluation time.

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Authors Respond: **Cornelia Drees, MD; Stefan Sillau, PhD; Mesha-Gay Brown, MD; Aviva Abosch, MD, PhD:** We agree with Dr. Sethi's observations regarding our article.[1] An epilepsy provider who manages the patient was crucial for the surgical workup, but he or she may not be aware of which tests have been accomplished until the next office visit. In our institution, a nurse navigator was key to a streamlined processing of patients, actively facilitating testing, and keeping track of what tests had been scheduled and performed. In addition, the dedicated epilepsy surgery clinic allowed any provider to temporarily hand over patients for the presurgical consultations and testing to a dedicated provider, which ensured the fastest possible processing time.

We have not analyzed processing time with respect to insurance status, but we have encountered rejection of coverage for certain tests depending on insurance. Individual state regulations may also influence access to testing.

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