Neurologists play a unique role in our health care system. Studies show that patients with health issues such as stroke, Parkinson’s disease, or multiple sclerosis benefit most when treated by a neurologist. Neurologists are more accurate than other physicians when diagnosing neurologic illnesses and choosing appropriate treatment. A correct diagnosis of a neurologic illness helps patients reach their full health potential and limits costs associated with unnecessary testing and prolonged hospitalization.

Neurologists provide a high-quality holistic approach when treating patients with neurologic problems; however, access to neurologists remains limited for the poor, minorities, and rural populations:

- A 2008 study on patient perceptions of MS-related care found that patients consider MS-related care significantly superior when it is delivered by neurologists compared to other physicians.1
- A study of rt-PA administration in Japan found that an increased number of stroke physicians, including neurologists and neurosurgeons, was associated with an increased usage of rt-PA—an FDA-approved treatment that is considered the most effective therapy for acute ischemic stroke. Authors attribute the correlation to two factors. First, a higher number of stroke physicians results in more efficient stroke services. Second, stroke neurologists and neurosurgeons play an important role in leading and organizing a hospital’s “stroke team,” a group of medical staff who provides care and education programs for acute stroke patients.2
- A 2008 study published in Neurology® found that patients of a neurologist were significantly more likely to take a disease modifying agent (DMA), attend an outpatient rehabilitation program, or see an occupational therapist, urologist, or physical therapist. However, results of this study show also that economic, insurance, racial, and geographic factors appear to limit access to neurologists. For example, of 2,156 people with MS, only 72.2 percent saw a neurologist for their usual MS care. The probability of seeing a neurologist was significantly lower for people who had been ill for more than 15 years; had difficulty walking but did not use an assistive device; required a wheelchair/scooter or were confined to bed; or did not have health insurance, were poor, lived in rural areas, or were African American.3
- A study of the availability of diagnostic and treatment services for acute stroke care in Iowa found that rural areas were more prone to fragmented neurologic care. The essential components of acute stroke treatment, such as CT, IV t-PA, 24-hour physician coverage, varied among hospitals suggesting that stroke care systems were underdeveloped in rural areas.4

More effective management of patients with neurologic problems prevents costly hospitalization. Studies show that patients consulted by a neurologist leave in-patient facilities earlier than those who are not consulted by a neurologist:

- A study of the effects of physician specialty on the health outcomes of patients with intracerebral hemorrhage found that patients seen by both neurologists and neurosurgeons stayed at a hospital for a shorter time than patients seen by internists. The median ‘hospital length of stay’ for patients seen by neurologists was 4.5 days, for patients seen by neurosurgeons it was 5 days, whereas for patients seen by internists it was 7 days.5
- A 2007 study focused on estimating the impact of neurology consultations on in-patient care found that neurologic intervention resulted in a significant change in diagnosis in 55.5 percent of cases and a significant change in case management in nearly 70 percent. Sixty-five percent of patients were discharged earlier as a result of neurological consultation.6
- A 1995 study of treatment methods of elderly stroke patients found that patients treated by the department of neurology were discharged an average of 16 days earlier (24 versus 40 days). Also, patients who were randomly placed in neurologic wards were more likely to return home directly from the hospital. In addition, after one year, the functional status was still better in patients randomized to neurologic wards compared with those randomized to other medical wards.7

Stroke patients seen by a neurologist experience better health outcomes than those seen by non-neurologists; they also are less likely to die during hospitalization:

- A study of stroke patients admitted to 113 academic hospitals over a two-year period found that neurologists improve outcomes for in-patient acute ischemic stroke patients compared to generalists. Specifically, ischemic stroke patients treated by a neurologist had a lower risk of in-hospital mortality (4.6 percent) than patients treated by non-neurologists (9.5 percent). In addition, a traditional analysis of data showed that ischemic stroke patients treated by a neurologist had shorter hospital stays and lower charges.8
- In a 2003 Veterans Administration stroke study on neurologist care, stroke patients seen by a neurologist (5.6 percent) were less likely to die during hospitalization than those seen by a non-neurologist (13.5 percent).9
- A 1999 study published in the journal Medical Care cited that the risk of 1-year mortality for stroke patients who received neurology care was 77 percent of the risk for patients who did not.10
- A 1995 study looking at the connection between physician specialty and the outcome of ischemic stroke patients shows that patients admitted to neurology...
services had better prognostic profiles, i.e., lower likelihood of having either completed stroke or cardiac comorbidity, and were less likely to die within one and six months of stroke onset. Also, ischemic stroke patients who were treated by neurologists experienced lower all-cause and stroke-related mortality. Even when the researchers attempted to adjust the all-cause mortality rates for the substantial difference in prognostic profiles, the magnitude of the survival advantage for patients treated by neurologists was essentially unchanged, although its statistical significance was reduced.11

Patients are more likely to benefit from neurologic testing when tests are conducted and reviewed by a neurologist. Also, neurologists are more accurate in referral diagnosis and in ordering neurologic tests, which limits costs associated with unnecessary exams and invasive surgical procedures:

- A 2006 study suggests that non-neurologists may over-utilize EEG tests. When non-neurologists ordered EEG testing without oversight, the rate of normal results was 73 percent. A high percentage of normal results suggest that EEG tests may be ordered unnecessarily. However, when non-neurologists had neurologist oversight when ordering EEGs, the rate of normal results decreased dramatically to 43 percent. Over the same period of time, the rate of normal results for neurologists was 28 percent.12
- TIA (transient ischemic attack) patients treated by a neurologist were significantly more likely to undergo cerebrovascular testing but were significantly less likely to undergo surgery, compared with those patients treated by physicians in other specialties.13
- In a 1998 critical evaluation of the variations of requests for electromyography (EMG) by neurologists and general practitioners, neurologists and other specialists were more accurate compared to general practitioners in their referral diagnosis and the need for electromyography. The authors suggest that there may be a reduction in the ordering of unnecessary EMG studies by as much as 25 percent if patients were seen by a neurologist.14

---

7 Kaste M, Palomäki H, Sarna S. Where and how should elderly stroke patients be treated? A randomized trial. Stroke 1995;26:249-253. *Note that the hospital studied is located in Finland.
14 Mondelli M, Giacchi M, Federico A. Requests for electromyography from general practitioners and specialists: critical evaluation. Italian Journal of Neurological Sciences 1998;19:195-203. *This study was based in Italy.