The state of academic neurology departments in the United States, 2016

A national survey

Clifton Gooch, MD

Correspondence to
Dr. Gooch:
cgooch@health.usf.edu

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Over the last decade, the United States has entered an era of national health care system reform, unprecedented in its scope and velocity. The seismic changes wrought by this process continue unabated and may have widespread effects on the academic medical enterprise throughout the country. To better understand the contemporary structure and features of academic neurology departments in this environment and to create a baseline for tracking future changes, we designed and executed a survey of department chairs in neurology nationwide in the fall of 2016, with the endorsement and support of the Association of University Professors of Neurology. The online survey was distributed to 126 chairs and 97 chairs responded, for a 77% overall response rate, though not all respondents answered every question.

Overall, average academic neurology department chair tenure is now approximately 5 years. However, despite department leadership becoming a much more stressful and demanding job in recent times, about half of department chairs have held their positions for 6 years or longer (27% 6 to 10 years; 23% more than 10 years), while half have served for 5 years or less (22% under 2 years and 28% 3 to 5 years). A somewhat similar distribution of service occurred for those chairs immediately preceding the sitting chair, though nearly twice as many predecessors had served as chairs for more than 10 years (46% predecessor vs 23% of sitting chairs), supporting a decline in the number of chairs having a very long tenure.

The majority of departments reported having less than 60 faculty members (72%), distributed somewhat evenly across the range (21% 1–15 faculty, 18% 16–30, 19% 31–45, and 14% 46–60). The largest departments reported more than 100 faculty (12%), and the remaining departments had from 60 to 100 (16%). In regards to faculty composition, most departments (62%) had from 30% to 40% female faculty, while 22% of departments were majority female. However, in contrast, 65% of departments reported fewer than 10% of their faculty were underrepresented minorities.

Neurology education continues to be a staple of medical school curricula almost everywhere, and

virtually all schools require a clinical neurology rotation for all medical students (97%), which averages 4 weeks in length (72%) and is typically placed in the third year (81%). Most neurology residency training programs (53%) have from 11 to 20 core residents in postgraduate years 2–4, while 23% have 21–30, 17% have 0–10, and 6% have more than 30. Neurology fellowship training continues to proliferate, with 49% of programs having up to 5 fellows, 14% having 6 to 10, and 37% having more than 10 fellows per year. Traditional epilepsy/EEG and neuromuscular/EMG fellowships (as represented in the overlapping epilepsy, clinical neurophysiology, and neuromuscular medicine programs) remain dominant, but stroke, multiple sclerosis (MS), and neurocritical care are now offered in half or more departments, while headache medicine and interventional neurology programs continue to appear and are currently offered in about one third. Fellowships offered, in order of descending frequency, included the following: neurophysiology/EEG (80%), stroke (77%), clinical neurophysiology/EMG (76%), clinical epilepsy (63%), movement disorders (59%), neuromuscular medicine (55%), MS (51%), neurocritical care (49%), pediatric neurology (49%), sleep medicine (41%), neurology/neuropsychiatry (31%), neuro-oncology (31%), behavioral cognitive disorders (29%), headache (28%), interventional neurology (28%), neuro-ophthalmology (22%), clinical research (21%), and pain medicine (20%), among others.

The majority of departments offer a tenure track for neurology faculty (82%) though, in most departments, a minority of faculty are either tenured or on a tenure track. In contrast, the majority of neurology faculty are on the tenure track in fewer than 10% of departments. In a trend paralleling the expansion and merger of academic health centers with large clinical practice entities, 38% of departments report now having at least some purely clinical service faculty with no assigned educational or research duties.

Faculty pay is structured as majority guaranteed with minority performance based in most departments (66%), minority guaranteed with majority

From the Department of Neurology, University of South Florida, Tampa.

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performance based in 15%, and guaranteed with no performance adjustment in 14%. In those institutions where performance is measured for compensation, clinical productivity is measured in 98%, and relative value units (RVUs) are the most prevalent primary metric for gauging performance (66%). However, in most departments, both educational and research performance are also measured and included for salary and bonus calculations (61% and 67%, respectively). Departments remain organized as their own fiscal units within their parent institutions in a high majority of institutions (84%) while, despite increasing consolidation throughout the US health care system, academic neurology is fiscally integrated within a neurology service line in only 11%. Clinical work provides an average of 50% of revenues, while research grants and other support provide 22%, hospital fund transfers 19%, state support 7%, and Veterans Affairs (VA) 4%. Primary teaching hospitals are university-owned in a very slight majority of cases (56%) and independent in the remaining 44%. Half of primary affiliates were public and half were private. A majority of departments also reported a VA affiliation (61%), while a minority (21%) had an affiliation with a charity hospital.

Neurology departments in the United States continue to evolve in response to dramatic changes in the health care environment. Smaller departments continue to appear and now comprise the majority, and will likely play increasing national roles in the future of our field. Women and disadvantaged minorities are represented at rates paralleling US medicine in general, but more work is needed to incorporate all groups, and to ensure equal opportunities for promotion and leadership. Most neurology faculty members are not on a tenure track, and pure clinical service neurologists are now appearing on academic department rosters in nearly 40% of departments,

highlighting the importance of creating a modern and distinct definition of the academic neurologist for the 21st century. Neurology clinical rotations are already required for all medical students by nearly all medical schools, a fact supporting the elevation of neurology to a mandatory clerkship by the Liaison Committee on Medical Education. In keeping with the growing complexity of our field, fellowship training continues to expand, with newer training tracks in MS, headache, neurocritical care, and interventional neurology rapidly gaining ground. In this age of the quantitation of everything, the primary metric for institutional grading of faculty performance remains the clinical RVU, though paradigms for research and educational assessment (critical for the survival of these missions) are also employed in a slight majority of institutions. The dependence of neurology departments on inadequately reimbursed cognitive clinical revenues remains high, and parent institutions should be encouraged to build logical business models incorporating direct clinical collections, and downstream revenue, taking into account neurologic care's effects on patient safety, morbidity, and mortality, in the allocation of central resources. The support of the essential neurologic care required by our patients as well as the financial sustainability of our field depends on it.

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