Neurosurgical Focus

Neurosurg Focus 5 (2): Article 2, 1998

Whither neurosurgery?

Cary D. Alberstone, M.D., Edward C. Benzel, M.D., and Deborah Garcia, C.N.R.N.

Divsion of Neurosurgery, University of New Mexico School of Medicine, Albuquerque, New Mexico

Although trends in the marketplace demand for neurosurgeons should be of interest to neurosurgeons and prospective neurosurgeons, little data are available that accurately document these trends. A recent report published in the general medical journal **Journal of the American Medical Association** (**JAMA**) used the Conference Board help-wanted index to evaluate trends in physician marketplace demand. The authors of the **JAMA** study concluded that over the past 5 years there has been a significant fall in demand for specialist physicians. Because the discipline of neurosurgery was not included in the **JAMA** study, the authors of the present report attempt to evaluate the trend in the marketplace demand for neurosurgeons, using the same methodology of the **JAMA** study. The authors' data suggest that the conclusion of the **JAMA** study of steep declines in the demand for specialist physicians does not accurately reflect the job market for neurosurgeons, which in fact appears to be relatively stable. The present study attempts to document the stability of the neurosurgery market and outline the steps necessary to protect this market from existing threats.

Key Words * neurosurgery * marketplace demand * Conference Board help-wanted index * outcomes research

An assessment of marketplace demand for physicians, using an adaptation of the Conference Board help-wanted index, was recently published in an attempt to characterize the changes that have taken place over the past decade.[4] Briefly, this study examined help-wanted index data to evaluate trends in the number of advertisements published in a selection of specialty and general medical journals. This information was used to analyze and compare trends in the marketplace demand for specialist and generalist physicians based on the assumption that the help-wanted advertisements published in the professional medical and surgical journals provide an objective measure of physician demand in the medical marketplace.

As an extension of this study, we believe that an adaptation of the modified Conference Board help-wanted index to the specialty of neurosurgery should be of interest to the neurosurgical community. These data are therefore presented and compared to previously published data for other specialties and generalist fields of medicine.

METHODS

Unauthenticated | Downloaded 04/26/23 11:03 AM UTC

The Conference Board help-wanted index[5] was used by Seifer, et al.,[4] to measure trends in marketplace demand for physicians in a select group of generalist and specialist fields of medicine. The Conference Board help-wanted index is derived from a sample of help-wanted newspaper advertisements[1,3,5] and is used by labor economists to track national changes in job availability. The adaptation of this tool by Seifer, et al., to study changes in marketplace demand for physicians may be summarized as follows.

A list of medical specialties previously identified in published predictions of physician oversupply was considered for study, and six specialty journals were ultimately identified and chosen: **Annals of Internal Medicine**, **American Family Physician**, **Pediatrics**, **Anesthesiology**, **Chest**, and the **Journal of Bone and Joint Surgery**. The **New England Journal of Medicine** was also included as representative of a general job resource for both generalist and specialist physicians. The number of advertised positions published in these journals was then tabulated, based on the September issue of these journals for the years 1984, 1987, 1990, 1993, and 1995. The latter 4 years were compared with 1984 (baseline year) on a percentage of change basis.

The discipline of neurosurgery was not included in the study by Seifer, et al.[4] To compare a similar set of data for the marketplace in neurosurgery with that provided for the fields studied by Seifer and coworkers, the methodology described above was applied to advertised neurosurgical positions. The following data presented were collected from the two major American neurosurgical journals, the **Journal of Neurosurgery** and **Neurosurgery**.

RESULTS

Journal of the American Medical Association

Analysis of the data of Seifer, et al.,[4] indicated that over the past 5 years the number of advertised positions for specialist physicians steeply declined. In 1990, for example, there were four specialist positions for every generalist position advertised, whereas by 1995, this ratio dropped to 1:8. The most dramatic change in advertised positions was observed among medical specialists: a 75% decline in the number of advertisements between 1990 and 1995 was observed compared to a 9% decline in generalist positions. Orthopedic surgery, which was the only surgical subspecialty studied, demonstrated a 50% decline during the same period.

Unauthenticated | Downloaded 04/26/23 11:03 AM UTC

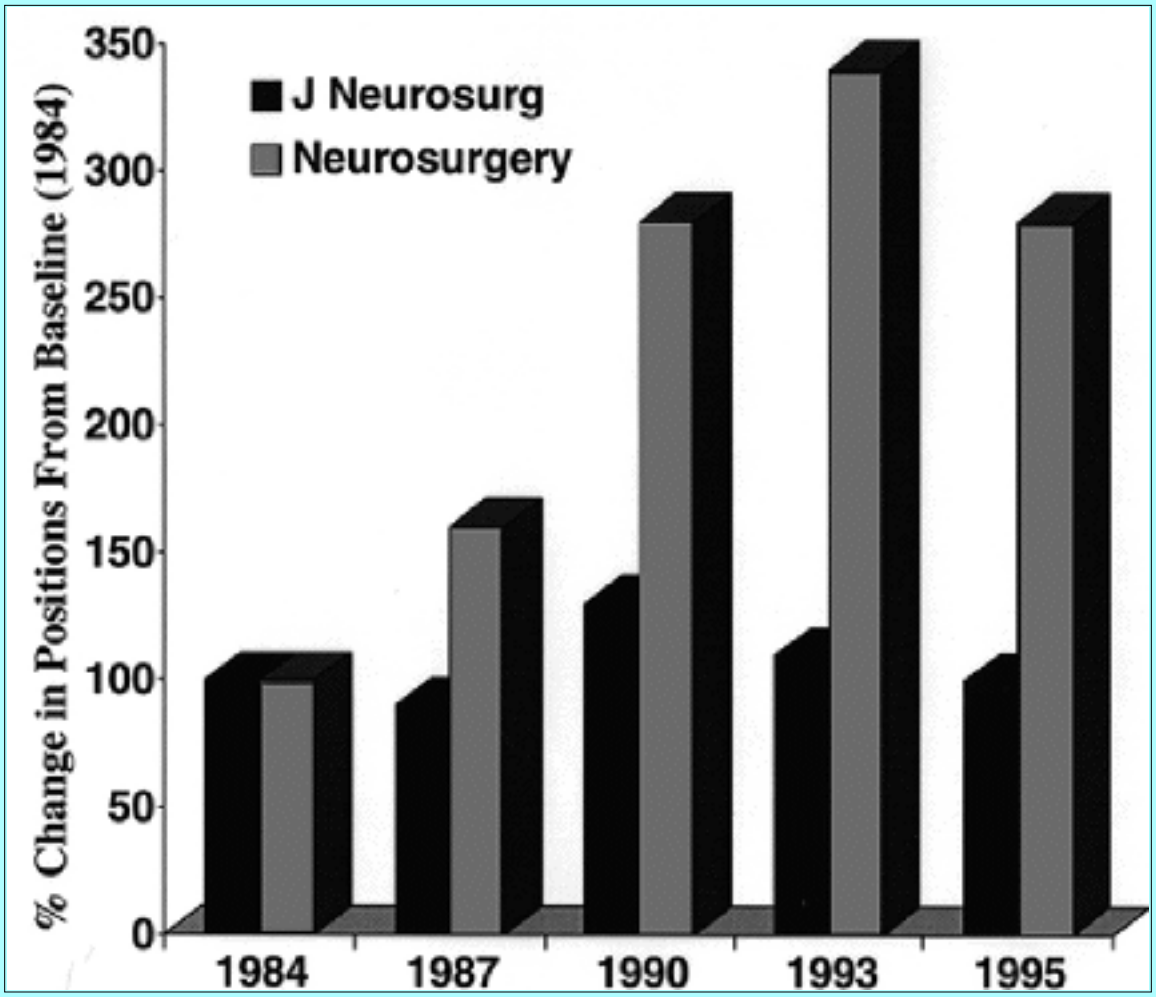


Fig. 1. Graph depicting data for neurosurgery, based on the help-wanted index methodology. The number of advertisements for neurosurgical positions in the September issues of the journals **Neurosurgery** and **Journal of Neurosurgery** (1984, 1987, 1990, 1993, and 1995) are portrayed. The latter 4 years are compared, on a percentage of change basis, to the baseline year, 1984.

Neurosurgery

During the same 5-year period in which Seifer, et al.,[4] demonstrated the marked decline in specialist positions, a 13% decline was observed in the number of advertisements for neurosurgery positions published in the **Journal of Neurosurgery**, and there was no change in the number of advertisements published in **Neurosurgery** (Fig. 1). A comparison of the data for neurosurgery and the generalist and specialists fields studied by Seifer and colleagues,[4] is presented in Figs. 2 and 3. The raw data from which the neurosurgery data were derived are presented in Table 1.

Unauthenticated | Downloaded 04/26/23 11:03 AM UTC

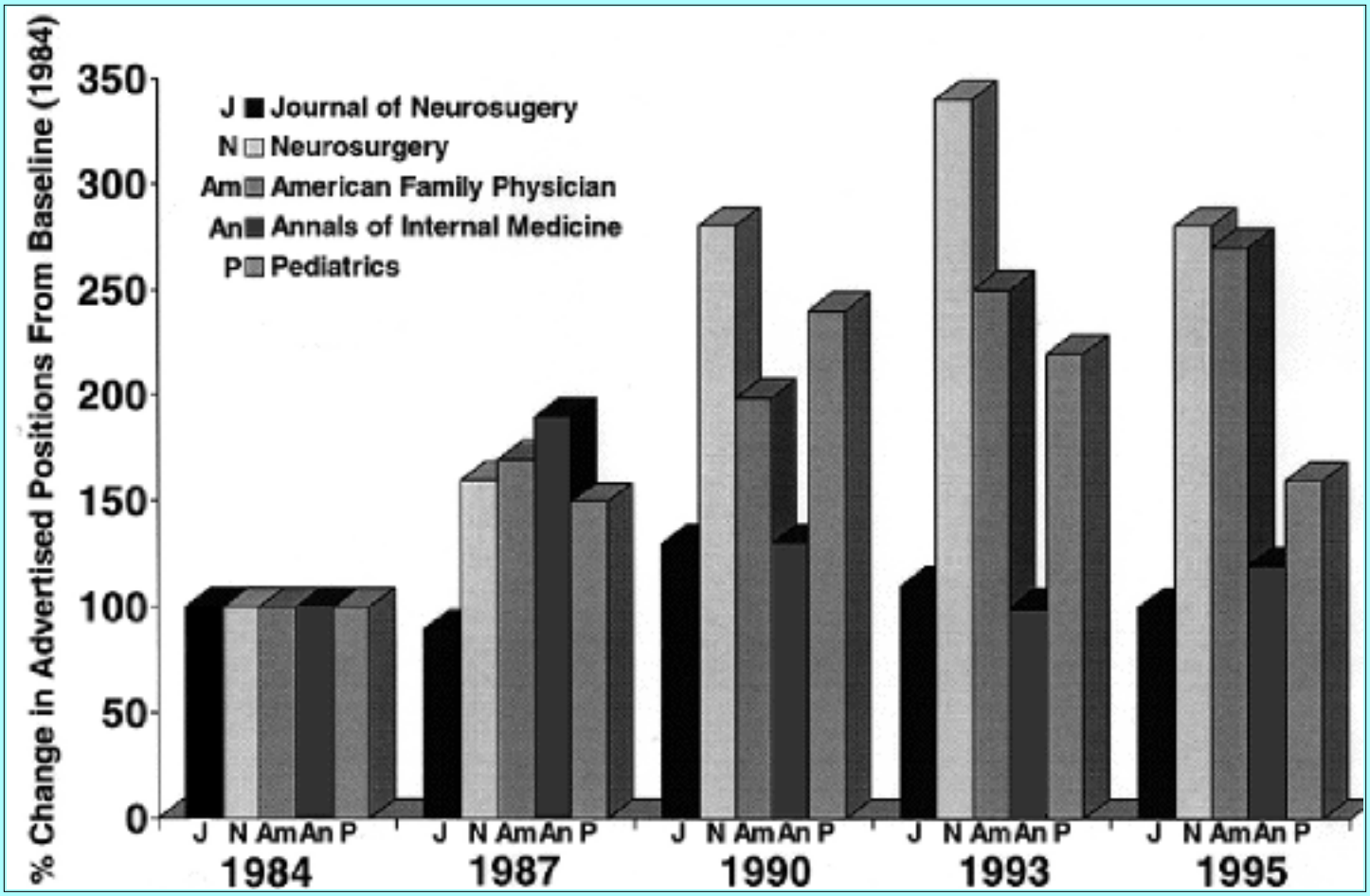


Fig. 2. Graph depicting comparison of the data for neurosurgery and generalist disciplines using the help-wanted index methodology. The number of advertisements for neurosurgical positions as well as nonneurosurgical positions in the September issues of five journals (1984, 1987, 1990, 1993, and 1995) are represented. The latter 4 years are compared, on a percentage of change basis, to the baseline year, 1984.

Unauthenticated | Downloaded 04/26/23 11:03 AM UTC

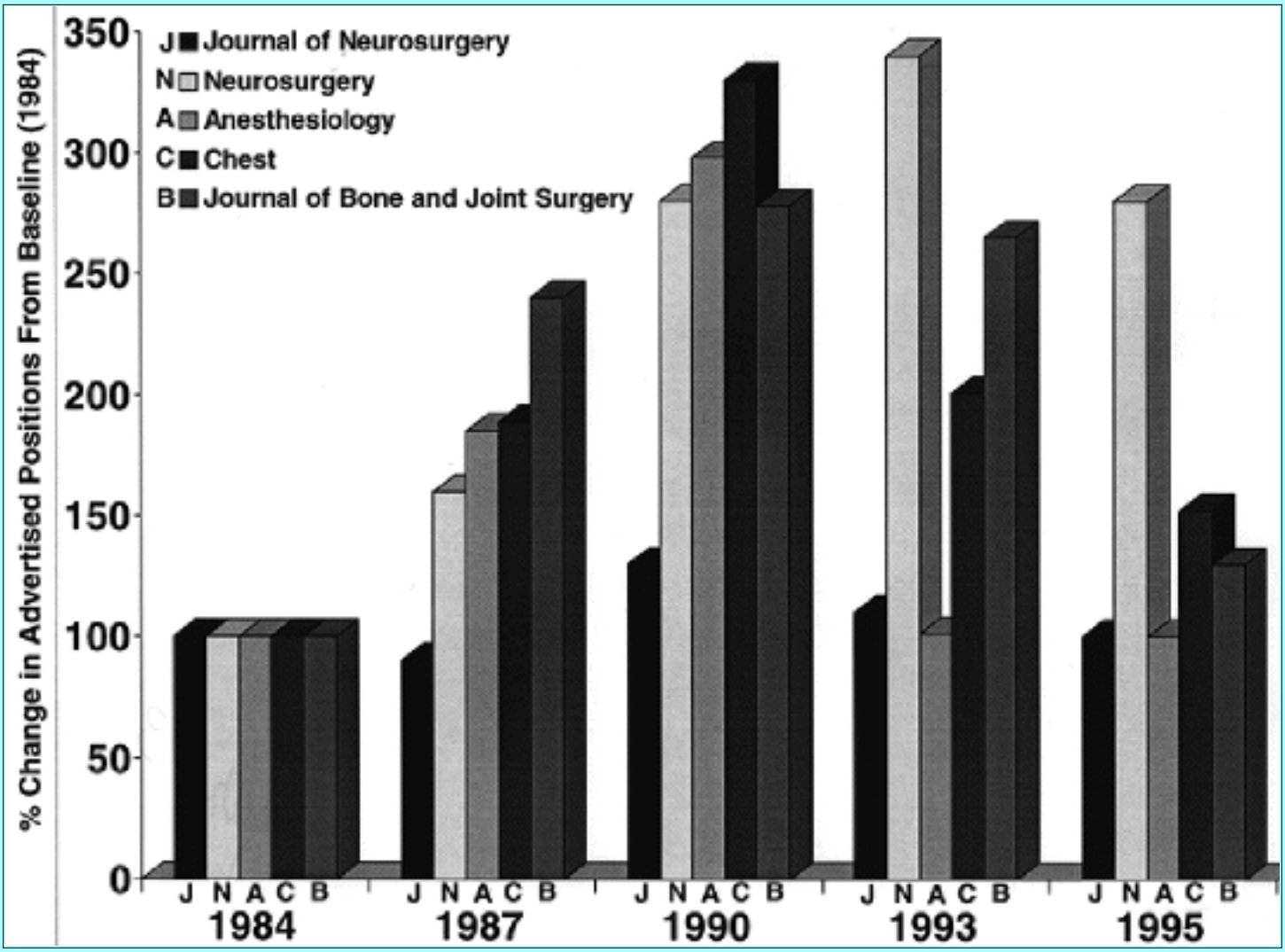


Fig. 3. Graph depicting comparison of the data for neurosurgical and nonneurosurgical specialist disciplines based on the help-wanted index methodology. The number of advertisements for neurosurgical positions as well as nonneurosurgical positions in the September issues of five journals (1984, 1987, 1990, 1993, and 1995) are represented. The latter 4 years are compared, on a percentage of change basis, to the baseline year, 1984.

TABLE 1

NUMBER OF ADVERTISEMENTS FOR NEUROSURGICAL POSITIONS IN THE SEPTEMBER ISSUES OF **JOURNAL OF NEUROSURGERY** AND **NEUROSURGERY** OVER 5 YEARS

	No. of Advertised Positions (%)*	
Year	**Journal of Neurosurgery**	**Neurosurgery**
1984	10	5
1987	19 (90)	13 (160)
1990	23 (130)	19 (280)
1993	21 (110)	22 (340)
1995	20 (100)	19 (280)

* Percentages of change are calculated using 1984 as the baseline year.

DISCUSSION

Neurosurgery in the Marketplace

Unauthenticated | Downloaded 04/26/23 11:03 AM UTC

The rate of reduction in the number of advertised positions for specialist physicians observed by Seifer, et al.,[4] was not observed for neurosurgery. In fact, the marketplace trends in neurosurgery fare favorably compared to the specialty fields that were studied. Figures 2 and 3 compare the percentage of change in advertised positions (from the baseline year, 1984) for neurosurgery and for generalist and specialist physicians. The data obtained from the journal **Neurosurgery** compare favorably with those of all other specialty journals and two of the three general medical journals, whereas the data from the **Journal of Neurosurgery** fare slightly less favorably. Only family practice demonstrated a persistent rise in the number of advertised positions.

Scope of Neurosurgery and Need for Outcomes Research

The data that emerge from an analysis of neurosurgery journals, which indicate that the marketplace demand for neurosurgeons is relatively stable, paint a less dismal picture for the specialty of neurosurgery than many would have thought. Nevertheless, many neurosurgeons in practice believe that they are working harder for increasingly diminishing returns, a situation that they attribute, at least in part, to an oversupply of neurosurgeons. However, the untoward market consequences of competition among neurosurgeons pale by comparison with the potential threats to neurosurgery posed by related specialists. Such specialists include otolaryngologists (for cranial base surgery), orthopedic surgeons (for complex spine and peripheral nerve surgery), general vascular surgeons (for cerebrovascular surgery), and nonneurosurgical intensivists (for critical care management).

These threats to neurosurgery suggest that perhaps neurosurgeons should concentrate on the fortification of their ranks, particularly in areas in which specialty care overlaps, to more effectively compete in the medical marketplace. In other words, it may be argued that neurosurgeons should focus their efforts on defining the scope of neurosurgery, rather than simply fixating on the question of manpower. For example, as spine surgeons, neurosurgeons may achieve a more secure position in the medical marketplace by providing comprehensive services for spine-related problems. Likewise, as neurointensivists, neurosurgeons will be rewarded for maintaining control of the critical care management of neurosurgical patients rather than relegating this aspect of care to nonneurosurgeon intensivists.

To relinquish to others the nonoperative aspects of neurosurgical care is to diminish the value of a neurosurgeon. Indeed, concerns that the growth of managed care may erode the surgeon's traditional role in the perioperative care of surgical patients were the source of a recent policy statement issued by the American College of Surgeons (unpublished data). This statement specifically reminds surgeons of their obligations to provide postoperative care for their patients and implicitly warns against incursion into this area by others.

Another area in which neurosurgeons must remain engaged is in the aggressive nonsurgical management of cerebral ischemia. Although the medical management of patients with cerebral ischemia has traditionally been the domain of the medical neurologist, there are ample reasons why neurosurgeons should help manage these patients. First, neurosurgeons understand the pathophysiological mechanisms of cerebral ischemia perhaps better than any other group of clinicians. Second, they possess a tradition of excellence in critical care management, which specifically includes experience in hyperdynamic and other relevant cerebrovascular therapies. Finally, they are uniquely equipped to manage the complications of cerebral ischemia, such as malignant cerebral edema and intracerebral hemorrhage. For all of these reasons, neurosurgeons will be rewarded for maintaining a leadership role in the research and

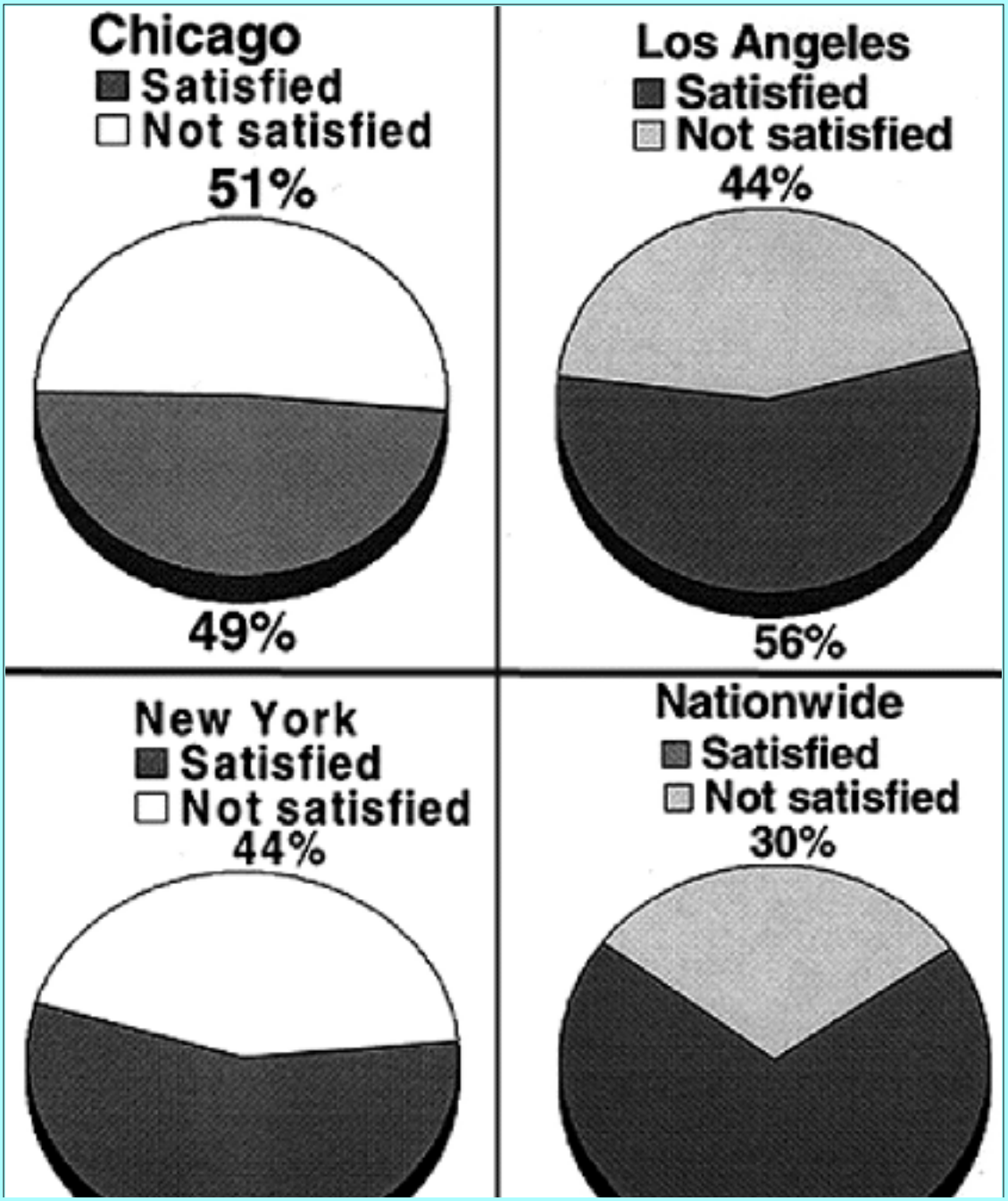
Unauthenticated | Downloaded 04/26/23 11:03 AM UTC

clinical management of cerebral ischemia.

Of course, to define the scope of neurosurgery requires more than blanket claims of clinical competency. In this new age of evidenced-based medicine, it is incumbent on neurosurgeons to document outcomes and cost effectiveness. Given the difficulties associated with conducting surgical outcomes research, this represents a monumental task. It is a task, however, that neurosurgeons must undertake if they are to ensure their position in the medical marketplace.

Factors Affecting Future Trends

It must be remembered, too, that patients have a stake in the role of specialist physicians. Recently, these patients voiced their dissatisfaction with the inaccessability of specialty services at health management organizations. In a 1997, 27-city survey of 85,000 health plan members, 30% of those who responded said they were not satisfied with their access to specialist physicians.[2] The complaint rate in Los Angeles and New York was 40%, and 50% in Chicago (Fig. 4).



Unauthenticated | Downloaded 04/26/23 11:03 AM UTC

Fig. 4. Graph depicting the percentage of consumers not satisfied with their health plan's policy for referrals to specialists, in Chicago, New York, Los Angeles, and nationwide. Data are based on surveys of 85,000 consumers in 27 metropolitan areas conducted by Sachs/Scarborough Health Plus.

In response to this backlash against the "gatekeeper concept," which limits patient access to specialty care and was popularized by the U.S. Healthcare Corporation in the early 1980s to save money and improve care, at least 17 states in the last 2 years have ordered health plan providers to allow direct access to certain specialists. Futhermore, many providers have voluntarily eased barriers to specialist physicians to improve patient satisfaction and to reduce the costly paperwork required to maintain restricted access.

Stephen F. Wiggins, former chariman and chief executive at the innovative Oxford Health Plans has said, "We've come to the realization that the gate-keeper strategy isn't working."[6] Oxford Health Plans estimates that 75% of its $2.2 billion in medical spending last year went to specialty services. "We're asking primary care to control all of this. It's getting complicated, and it's something primary-care doctors weren't trained to do," Mr. Wiggins says. Oxford Health Plans' response was to hand back control of specialty services to the speciality physcians, and they have recently announced that they will pay a group of nurse practitioners at rates equal to those of primary care doctors.

What does all this mean for future trends in the specialty physician marketplace? Suffice it to say that the realignment of specialty services within an increasingly large sector of the healthcare market may reflect the beginnings of increased demand for specialty physicians, which should give pause to those who hear the death knell of specialty medicine.

CONCLUSIONS

Based on an analysis of marketplace trends, neurosurgeons have reason for cautious optimism. Compared to other specialties, the number of advertised positions in neurosurgery appears to be relatively stable. Nevertheless, the real threat of market-share loss to other specialties in neurosurgery looms large. To manage this threat effectively, it is suggested that neurosurgeons should carefully define the scope of clinical neurosurgery, particularly in areas in which care overlaps with other related specialties, and aggressively carry out and document the results of outcomes and cost-effectiveness research. The data presented here do not provide support for the widely held belief that the medical marketplace demand for specialty medicine is on the wane, nor does it suggest the need for draconian downsizing in neurosurgery.

References

1. Abraham KG, Wachter M: Help-wanted advertising, job vacancies, and unemployment, in Brainard WC, Perry GL (eds): **Brookings Papers on Economic Activity.** Washington, DC: Brookings Institution, 1987, Vol 1, pp 207-248

2. New York Times: HMO's beginning to ease the rules on specialty care. February 2, 1997, pp 1, 12

Unauthenticated | Downloaded 04/26/23 11:03 AM UTC

3. Preston NL: **The Help-Wanted Index: Technical Description and Behavioral Trends.** New York: Conference Board, 1977

4. Seifer SD, Troupin B, Rubenfeld GD: Changes in marketplace demand for physicians: a study of medical journal recruitment advertisements. **JAMA 276:**695-699, 1996

5. Wall Street Journal: Help-wanted ads, construction contracts fall. January 31, 1997, pp A2, A4

6. Wall Street Journal: Oxford to give more control to specialists. March 27, 1997, pp B1, B7

Manuscript received June 18, 1998.

Accepted in final form July 10, 1998.

Address reprint requests to: Edward C. Benzel, M.D., Division of Neurosurgery, University of New Mexico School of Medicine, Albuquerque, New Mexico 87131.

Unauthenticated | Downloaded 04/26/23 11:03 AM UTC