THE VALUE OF NEUROSURGERY

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Received, October 27, 2003.

KEY WORDS: Health care crisis, Value

Neurosurgery 54:777-782, 2004 DOI: 10.1227/01.NEU.0000114138.50476.03 www.neurosurgery-online.com

Webster's Dictionary (11) defines "value" as 1) the relative importance and degree of excellence, 2) the precise significance of a person or activity, 3) a principle or quality that is intrinsically valuable or desirable, or 4) the monetary worth of something. Remarkably, every meaning of the word is applicable to neurosurgeons and to our profession.

Each of us was drawn to medicine by a variety of motivations and expectations, including intellectual curiosity, the desire to help other people, a passion to expand our society's scientific knowledge, and our perception of the professional honor and value associated with being a physician. Our progress was facilitated by countless teachers and counselors, who helped us develop and refine our scholastic skills, and by parents, coaches, and mentors, who reinforced the principles of personal integrity, hard work, discipline, consistent best efforts, and good sportsmanship.

We were also attracted to neurosurgery by perceptions of our discipline's inherent value to patients and to the overall well-being of our society and by recognition of neurosurgery's remarkable historical achievements and the potential for even greater future contributions. Although each of us undoubtedly had some degree of idealistic naiveté in our formative years, our perceptions were not wrong, as we experience in our practices every day. There is great value to being a neurosurgeon.

Foremost is the incredible value that results from the privilege of providing patient care. Simply stated, patients rely on us and entrust us with their well-being. That transfer of trust within the neurosurgical context is a remarkable exchange between two human beings. It is too simplistic to declare that our value is in our profession's extraordinary ability to help people, to make them better, and to improve their lives. That is only a portion of the value that neurosurgeons provide; as each of us unfortunately knows, we sometimes cannot help patients, we do not always make them better, and, regrettably, some treatments we offer leave patients with increased disability, or worse.

Therefore, the core value of neurosurgery involves the privilege of providing patient care, the relief of human suffering, and the relationships we forge with our patients and their families. We advise, counsel, and comfort our patients regarding the most intimate and profound aspects of human existence. We are entrusted with fundamental aspects of their well-being and quality of life. There is no greater reward than developing these relationships through respect, skill, and compassion and assisting frightened, often hopeless, patients and their families through a course of neurosurgical treatment.

For many of us in practice, there is also the sense that we serve God in the process of caring for patients with illness. In so serving, we bring comfort, hope, and health to our patients and their families. There is immeasurable value in applying all that we have learned and trained for, whether in brain surgery or in spinal column surgery, and combining that with compassionate, personalized, physician-to-patient care, from the initial clinical visit to the final follow-up visit. As the saying goes, "It just doesn't get any better than that."

There is great value beyond patient care in being a neurosurgeon. We practice in the most difficult, demanding, and scientifically challenging medical subspecialty. Neurosurgery is the most difficult subspecialty to enter, and neurosurgical training is the most challenging and lengthy training in medicine. The work we are trained to do is among the most wide-ranging, challenging, and precise being performed in contemporary medical practice. Our hours are incredibly long and quite often completely unpredictable. The pressures are high, and the risks are great. Therefore, there is an inevitable public perception that we are "superspecialists," that somehow we can cure any neurological disease or condition. Al-

though perhaps overly lofty on occasion, the general public perception of neurosurgery is overwhelmingly positive, and the corresponding respect for us is high. Individually, we can take justifiable pride in ourselves and in our profession's roles in medicine and society.

There is also value to us, individually and as a specialty, in participating in the development of new knowledge in the field of neurosurgery. Each week, neurosurgeons throughout the United States and around the world reveal new mysteries of the nervous system, which is the most complex, exciting, and least understood organ system in the human body. Neurosurgeons have made important scientific contributions and, because the nervous system remains one of the last frontiers in health and medicine, we have much more to contribute. Each of us can take particular pride in the accomplishments of our neurosurgical research colleagues leading these current and future scientific efforts.

But we have a dilemma. If neurosurgeons individually and neurosurgery as a specialty are so valuable to our society and science, why are we among the most regulated and scrutinized professions, particularly in America? If we truly are such a medical and scientific treasure to our patients, our communities, society, and modern medicine, why are we burdened with more, and more complex, federal regulations every year? In an era in which virtually every commodity and service costs more every year, in a society in which innovative and premier items and services escalate in value with time, why are cutting-edge neurosurgical services valued less each year? Why are neurosurgeons pressured to alter their practices because of liability insurance coverage?

The answers to these questions are based on the fact that health care spending in the United States is out of control (7, 10, 10a). At 14% of the United States Gross Domestic Product (the highest percentage, by far, of any nation in the world), health care expenses seriously threaten our nation's economy (*Fig. 1*). They have decidedly negative effects on the profitability of corporate America and directly contribute to the inability of the American workforce to compete with workforces of other nations (*Table 1*). Exorbitant health care costs are a burden to our economy, our government, our corporations and businesses, and, most importantly, our fellow citizens. The costs are such a burden, in fact, that 43.6 million Americans, a remarkable 15.2%, do not have health insurance (9, 10a). A total of 2.4 million Americans lost or dropped their health insurance in the past year, the largest single increase in the uninsured ranks in a decade. The 84.8% of us with insurance, expensive as it is, subsidize the care of the uninsured. Our health care system is in a state of extreme crisis.

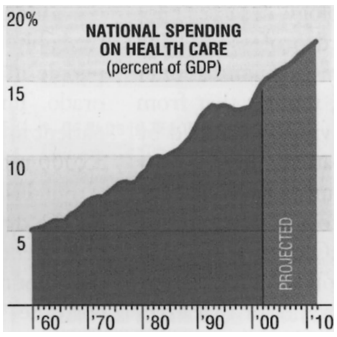

FIGURE 1. *Increasing health care spending, with respect to the United States Gross Domestic Product* (GDP).

There are three major contributors to the current health care crisis in America. The first is fee-for-service pricing and resultant overutilization. The second is the redistribution of health care dollars within the system away from physicians and hospitals. The third is the professional liability insurance crisis.

TABLE 1. Increasing health care costs[a]

No. of workers	Increase (%)
3–9	16.6
10–24	15.2
25–49	14.3
50–199	15.9

[a] Although the average health insurance premium for workers increased 13.9% this year, compared with 2002, the increase was larger for small employers. Source: Kaiser Family Foundation; published in *USA Today*, October 6, 2003.

Doctors have benefited from fee-for-service reimbursements for patient care during the years. Even in recent years, with dramatic reductions in reimbursements for similar services, fee-for-service payments provide compensation for services to Medicare and Medicaid beneficiaries certainly better than if the same patients were uninsured. The inherent problem with this system, however, is that demand inexorably increases to meet supply, no matter how much supply increases, as long as the service is free to patients. Patients demand more access to all possible treatments and, because reimbursements for individual services have decreased, supply-side providers have a built-in financial incentive to offer more services and more extensive services to patients, often using more relaxed, less stringent indications.

More patients with complaints and less stringent criteria governing application lead to overutilization (*Fig. 2*; *Table 2*). More services are offered, and more expensive and more complex procedures are provided for less stringent indications; despite

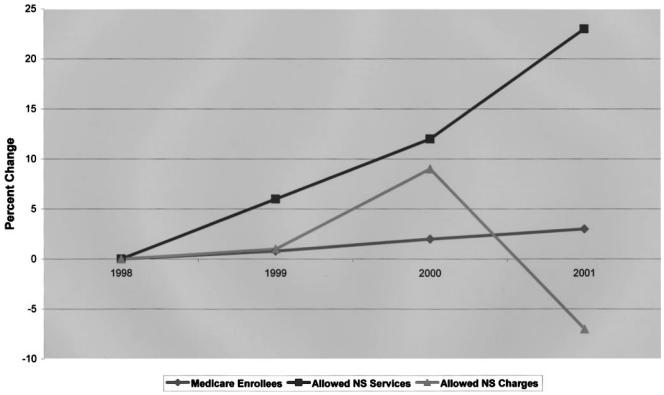

FIGURE 2. *Medicare utilization and reimbursement for neurosurgical services, 1998 to 2001. The overall Medicare neurosurgical* (NS) *services offered increased, despite a relatively stable enrollee population and declining reimbursements for services provided.*

TABLE 2. Changes in Medicare reimbursements[a]

Year	No. of Medicare enrollees	No. of neurosurgical services performed	Allowed charges	Cumulative change, 1998–2001 (%)		
				Medicare enrollees	Neurosurgical services	Allowed neurosurgical charges
1998	37,998,035	1,733,695	$346,371,287	0	0	0
1999	38,299,382	1,841,818	$349,194,173	0.8	6.0	1.0
2000	38,761,628	1,957,654	$378,445,128	2.0	12.0	9.0
2001	39,149,152	2,188,072	$327,207,166	3.0	23.0	−7.0

[a] The absolute numbers of neurosurgical services performed and the percentage increases relative to allowed charges (reimbursements) with time should be noted.
Source: Centers for Medicare and Medicaid Services, United States Department of Health and Human Services.

reductions in reimbursements for individual services, the net result is an explosion in the numbers of procedures and costs, i.e., an out-of-control health care system (10a).

Faced with this situation, the federal government has made multiple attempts to improve medical care and control health care costs. These efforts have produced precisely the opposite effects. Patients and physicians have been burdened with the Consolidated Omnibus Budget Reconciliation Act, the Emergency Medical Treatment and Active Labor Act, the Health Insurance Portability and Accountability Act, complex and irrational Centers for Medicare and Medicaid Services (CMS) equations, and endless institutional and individual audits. We have become overwhelmed with cumbersome governmental mandates and restrictions. These legal shackles have not improved health care or controlled costs. However, they have had singularly devastating effects, i.e., they have made our work to provide top-quality care to the most important component of our practices, our patients, more difficult, more impersonal, and more expensive.

The Balanced Budget Act of 1997 was a recent attempt by the government to control costs, yet another federal effort to slow the accelerating increase in health care spending in the United States. It capped the pool of federal funds available to health care institutions and providers offering services to patients with Medicare health insurance. Rather than rationally increasing that pool of resources as millions of new beneficiaries have been added to the system, as techniques and technology have expanded and advanced, and as the complexity and risks of the services we offer have increased, the government, in response to the increasing proportion of the Gross Domestic Product devoted to health care costs, has chosen to leave its resource pool fixed. Therefore, compensation for professional services provided to Medicare participants has been decreased year after year (*Figs. 3* and *4*). Not surprisingly, for-profit, nongovernmental health insurance providers have followed suit and, ostensibly in reliance on the CMS cost-control model, have denied coverage, decreased reimbursements, or both. These actions have not reduced the costs of health care in the United States; they have simply redistributed the costs unfairly and inequitably and have provided a perverse incentive for physicians to avoid Medicare beneficiaries.

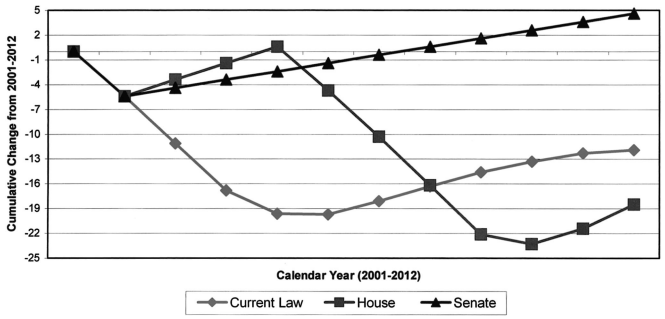

FIGURE 3. *Anticipated Medicare reimbursements with time, comparing existing law with House and Senate bills to bolster the system (before 2002, a $54 billion correction was made for CMS errors).*

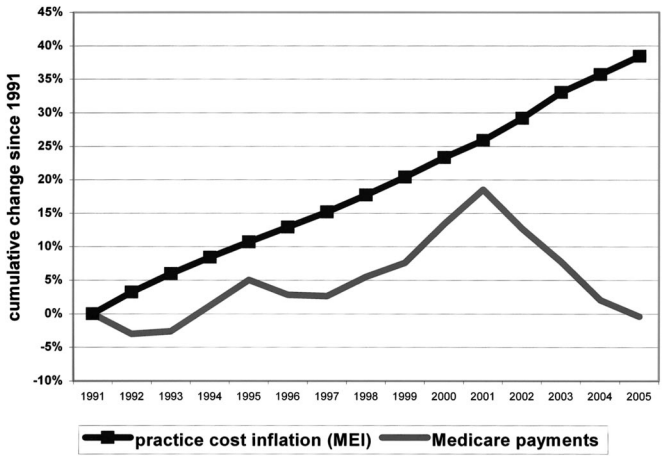

FIGURE 4. *Anticipated practice expense changes, compared with anticipated Medicare reimbursements for physician services under current law.* MEI, *Medicare Economic Index.*

The redistribution of health care dollars in the United States is both interesting and startling. As physicians and institutions

have been pressured and our fees more tightly regulated (the only point of control the government and the various insurers have within the burgeoning health care system), resources have been shifted from doctors and patients to drug and device manufacturers. Drug and device manufacturers are able to pass their additional costs to consumers and price their products to maximize revenue (10a, 12).

Insurance companies and the executives who administer their policies are handsomely rewarded for "cost-cutting" (i.e., restricting benefits and reducing reimbursements) as they aggressively recruit more high premium-paying beneficiaries. Drug and device manufacturers are virtually invisible to the restrictions and cost regulators of the health care system. As more health care dollars are spent on new and better drugs and on more expensive medical devices and implants, resources are shifted away from physicians and hospitals (*Table 3*). As a result, physicians and hospitals receive progressively smaller portions of United States health care spending, which is a major contributing factor in declining reimbursements. We have now reached the point at which the physician providing the prescription or the neurosurgeon placing the implant is valued less than the drug or implant provided. Our world has been turned upside down.

Compounding the crisis in health care financing, the professional liability insurance market has been destabilized. Fewer insurers, poor fund management practices, increased numbers of frivolous and meritless claims and lawsuits, exorbitant awards beyond economic damages, and aggressive lobbying activities by plaintiffs' lawyers have resulted in devastating losses of coverage and escalating malpractice insurance premiums for America's doctors. Those among us who perform high-risk surgical procedures have been hit the hardest. Neurosurgeons have been particularly affected (*Fig. 5*). Neurosurgeons face economic pressure to restrict their practices and to surrender intracranial privileges to reduce their insurance risk exposure, which leads to their nonparticipation in trauma care. Some of us cannot obtain meaningful coverage at any price and have been forced to retire early, to forgo insurance coverage, or to relocate. Individually, this is a nightmare. Collectively, it is a disaster with potentially dire consequences for patients in need of complex procedures or emergency neurosurgical care.

TABLE 3. Drug prices for Americans[a]

	American price (% more)
Switzerland	58
Great Britain	60
Canada	67
Germany	74
Sweden	78
France	102
Italy	112

[a] People in the United States pay higher prices for prescription drugs than do residents of other industrialized countries. How much more Americans pay, compared with people in those countries, is indicated. Sources: Alan Sager and Deborah Socolar, Health Reform Program, Boston University School of Public Health; Patented Medicines Price Review Board, Canada; published in *USA Today*, October 7, 2003.

How big is this problem? Big, and so, too, must be our response. Organized neurosurgery is leading the collective effort to make our president, our Congress, health care insurers, and the public aware of this crisis. How big is our opposition? Tort costs in the United States today exceed $200 billion annually. Plaintiffs' attorneys pocket more than $40 billion annually and have enjoyed a remarkable compounded annual growth rate of 9.1% in the past 30 years (an increase of 14.3% in 2001 alone). In comparison, the United States population grew 1.1% compounded annually, the Consumer Price Index increased 5.0% compounded annually, and the Gross Domestic Product increased 7.6% compounded annually during the same period (4, 8). The tort system in the United States is out of control.

Where does it all end? What can we do about it? We cannot ignore it. We cannot look the other way. We cannot hope it will improve on its own. And we certainly cannot count on someone else to fix it.

None of us can choose individually to simply struggle on with blinders in place, hoping that the system will somehow work well enough for us. We must confront these issues directly. We must assume responsibility. We must organize and unite as neurosurgeons and as a specialty. And we must ask other medical specialty groups and their respective individual specialists to join us in this crucial effort. The time is now. We in neurosurgery must lead, and we must organize; in so doing, we will not fail.

Earlier this year, I urged each of you to remain focused on our greatest priority, our patients (5). We must continue to provide personal, high-quality, professional neurosurgical care to our patients, regardless of their individual circumstances or their ability to pay. We must not succumb to the temptation of overutilization (overapplication, as I call it), offering an internal fixation and fusion procedure, for example, when simple decompression would serve the patient well. Although current market forces, government bureaucrats, and for-profit third-party insurers are attempting to create a wholesale commodity environment for health care in North America, as clinicians we must continue to have direct personal contact with each patient. We cannot allow ourselves, our services, or our patients' needs to be marginalized as mere commodities that are regulated, delegated, and distributed by nonphysicians. We must continue to provide personal, private, and compassionate care, and we must continue to be distinguished by the unique services and unwavering commitment that we provide to those we serve.

As physicians, we have something that legislators, bureaucrats, regulators, insurance underwriters, and trial lawyers do not have. We have patients, millions and millions of them each

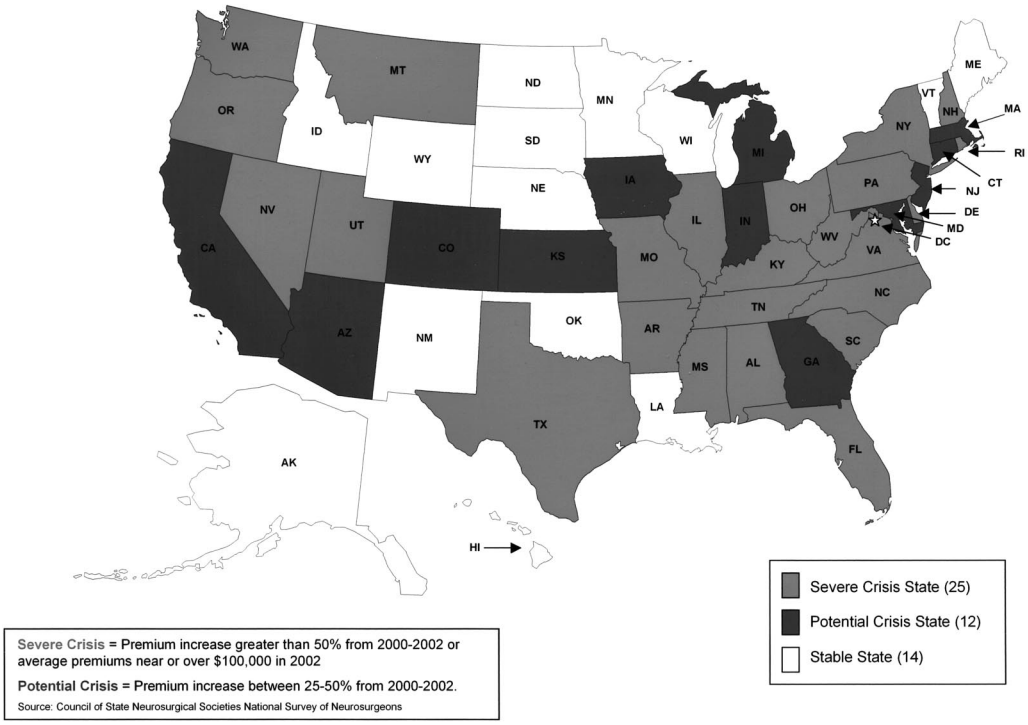

FIGURE 5. *Map of states with a professional liability crisis for neurosurgeons.*

year, patients who depend on us to be there for them in their times of need. We must inform and educate our patients about our profession and the multiple issues and obstacles that we (and they) face in providing their care. Patients often spend significant time in our waiting rooms. While they wait, they typically read 6-month-old issues of *Reader's Digest*, *People*, and the *Ladies' Home Journal*. It is time to change the library.

Our patients need to read about us, about the crisis in American health care, and about the enormous challenges that we, their health care providers, face in delivering the level of health care they demand and deserve. We not only have the ability to inform and educate our patients, we also have a fundamental responsibility to do so. We can and must enlist their support in this struggle. Our patients are essential for bringing about the necessary legislative and regulatory changes to our health care system and enacting meaningful and effective tort reforms.

In this process, however, we must always adhere to the highest principles of professionalism. Providing top-quality, professional, timely care to those who need us is not enough, and informing, educating, and engaging our patients is not enough. The time has come for us to assume responsibility for our profession's challenges and take collective decisive action. The time for action is upon us, and we must act now.

As we work for reforms, we must become increasingly involved in neurosurgical organizations on the state and national levels. We must involve ourselves and work together in our state neurosurgical societies to enhance our voices and our state and regional presence. Consensus strategies from energized state neurosurgical societies are remarkably effective with state legislatures and regional third-party insurers. Similarly, we must each become actively involved with our national organizations, particularly the Congress of Neurological Surgeons, the Council of State Neurosurgical Societies, and the American Association of Neurological Surgeons, to develop consensus strategies and provide collective input to our national legislators and regulators. We must demand a reassessment of our entire health care system. Rather than simply complaining about and battling over decreasing reimbursements, we must insist on a comprehensive analysis of the entirety of the health care system in the United States. We must specifically demand an examination of the drug and device manufacturers' role in the escalation of health care expenses and the shifting of resources away from doctors, hospitals, and the patients we serve, as well as an overhaul of the medical liability system. This is not the time for us to be less involved in our state and national neurosurgical organizations; this is the time to wholly embrace them.

Some may be asking, "What difference can I make?" In response, I offer several recent examples, including the Emergency Medical Treatment and Active Labor Act regulations, CMS reimbursements, and relative value unit indexing. Organized neurosurgery, through our American Association of Neurological Surgeons/Congress of Neurological Surgeons Washington Committee, has had important positive effects in these critical areas. The final Emergency Medical Treatment and Active Labor Act regulations include major portions of neurosurgery's text suggestions regarding on-call and cross-coverage requirements and physician availability status. Neurosurgery's efforts with the CMS in the relative value unit and coding and reimbursement areas have resulted in important "improvements" for neurosurgery, reducing what would have been even more devastating losses in reimbursement. Are these important contributions? Definitely. When we are dealing with hundreds of millions of dollars, every penny is important. Think of what might happen if we all were engaged and committed to the challenges before us.

Our patients and their care are being negatively affected by the professional liability insurance crisis (4, 8). Organized neurosurgery is developing strategies such as Neurosurgeons to Preserve Health Care Access to combat this devastation, and we should

lead a coalition of medical specialties, much like David versus Goliath, to reconstruct the medical liability system. There is more on this issue that we as individual neurosurgeons must do.

We must assist in the development of medical evidence-based guidelines regarding the diseases and pathological conditions we treat. Several outstanding guidelines already exist in neurosurgery, and they serve as critically valuable outlines of the broad spectrum of treatment options for our patients (2, 6). Properly developed guidelines describe the variety of successful treatment options for neurosurgical diseases and rank their merits on the basis of scientific evidence. Guidelines assist us in medical liability cases because they limit the "he/she didn't do it my way" pronouncements too often offered by plaintiffs' "expert" witnesses. When scientifically meritorious treatment options, as defined within properly developed guidelines, are used in neurosurgical patient care, fewer claims of malpractice can be brought or sustained.

Similarly, we must generate reliable outcome analysis tools for the procedures we offer. Verifiable outcome data provide benchmarks for the procedures we perform. Importantly, they establish that there is no procedure with a 100% success rate or no risk. Outcome data, particularly when combined with guidelines outlining acceptable practice options, can dispel the pervasive idea that a poor result or a bad outcome indicates poor effort, negligence, or malpractice on the part of the individual neurosurgeon.

In addition to scientific documentation of our treatment options and their relative merits, we must always adhere to the codes of conduct for our profession. We must follow the guidelines for expert testimony, and we must provide the highest-quality peer review and professional conduct (3). We must police ourselves and abide by guidelines and outcome data in our informed consents, in our treatments, and in our sworn testimony. Of critical importance, we must identify individuals in our specialty who attack their fellow practitioners for financial gain by providing flawed expert testimony, and we must hold them accountable for their actions through our professional societies.

Finally, we should wholeheartedly embrace the recertification and maintenance of competence initiatives of the American Board of Medical Specialties and the American Board of Neurological Surgery. It is critical that every member of our specialty remain current with the latest treatments and literature reports. We must encourage our colleagues to participate, and we must constantly demonstrate to our patients and the public that we are capable, reliable, and contemporary providers of cutting-edge professional services, administered within the boundaries of scientifically acceptable neurosurgical practice.

In conclusion, we as neurosurgeons are at a professional crossroads. Without action, we and the services we provide will be progressively devalued, to the detriment of our patients and their care. We can change our current circumstances. I am confident that we have the will, the energy, the passion, and the resources to accomplish our goals and advance our specialty. The time is now. Let us rededicate ourselves to achieving these objectives and reconfirming our position and value as the preeminent surgical specialty in organized medicine.

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Congress of Neurological Surgeons' Mission Statement

"The Congress of Neurological Surgeons exists for the purpose of promoting the public welfare through the advancement of neurosurgery, by a commitment to excellence in education, and by dedication to research and scientific knowledge. The Congress of Neurological Surgeons maintains the vitality of our learned profession through the altruistic volunteer efforts of our members and the development of leadership in service to the public, to our colleagues in other disciplines, and to the special needs of our fellow neurosurgeons throughout the world and at every stage of their professional lives."