CHAPTER

1

Managed Care and Managed Golf: Lessons for Neurosurgery in 1995*

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It's been a great honor for me to serve as the president of the Congress of Neurological Surgeons for this past year. The friendships that have developed as a result of my work in the Congress has meant a great deal to me, and the opportunity to work with such a talented and energetic bunch of people, not only in the Congress, but also in the AANS, has been one of the most rewarding experiences of my life. I am very grateful to you, the members of the Congress, for allowing me to serve in this capacity.

What I would like to do this morning is make some observations about the practice environment for neurosurgery and medicine in 1995. I am going to discuss the way managed care is changing our ability to care for our patients. I would then like to describe to you how I think our specialty should rededicate itself to the scientific principles of continuous improvement of patient care and technology that have made our specialty so great.

Before I discuss these serious issues however, I'd like to tell you about a nightmare that I had a couple of weeks ago. The nightmare was that the same executives who are running America's managed care companies extended their reach into another American institution—golf. You see, in my dream a group of key policymakers got together in Jackson Hole, Wyoming and decided that the country was spending too much of its gross domestic product on golf, and that if something was not done to halt the skyrocketing cost of the sport, eventually we wouldn't have enough money to pay for other important national priorities. These policymakers came up with the concept of managed golf. Under this plan, costs would be controlled by limiting the number of golf balls that a golfer would have access to. All the golf balls were divided up and distributed by individuals called primary recreationalists.

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These individuals didn't know much about golf and couldn't play golf, but they were the gatekeepers for the system. In my dream golfers would spend a lot of time sitting around on the tee, waiting for the primary recreationalists to give them access to a golf ball. When a ball finally became available, the golfer would have to call in to a central location and ask permission to tee off. The clerks that he or she would speak to on the phone would usually know very little about the game of golf, but they had golf guidelines available to them. In one case, the golfer was somewhat upset with the managed golf clerk, because he wanted to use a driver. He was there on the tee and he knew the conditions and felt that this was the best club to use. The managed golf clerk, however, told him that the guidelines called for a three-wood. You'll notice here that the equipment was not state of the art. Equipment manufacturers had to get out of the business because of cost pressures and, hence, the high-tech clubs that had been so prevalent were replaced with suboptimal technology and equipment. Another thing that became very noticeable around golf courses in my dream was that the golfers came to be outnumbered by people walking around the course in suits. These people were lawyers, golf course administrators, and managed golf company executives. Initially, they allowed the golfers about 12 minutes to play each hole, but gradually, over time, the number went down to 11, then 10, and then finally ended up at about 8 minutes. If you took longer than 8 minutes, they took the ball away from you. The whole emphasis in the world of managed golf was on controlling resource utilization. For example, a shot such as this, where sand is knocked out of the bunker, was perceived as a very negative occurrence, because they would have to pay someone to rake the bunker. Similarly, if a golfer ever took a divot, it would be entered into his computerized profile and he would be penalized. This became known as divot credentialing, and it led to some fundamental differences in the way the game was played. Golfers would never consider using a wedge under these circumstances, because it might hurt the golf course and drive up costs. As a result, scores changed dramatically and the quality of play suffered. Eventually, society became critical of what had happened to the game. Golfers were again brought back into the system in a meaningful way. They reminded the managed golf executives that what really counts is how many strokes it takes to hole the ball, and that occasionally it might be necessary to take a divot or use other resources to achieve the desired goal. They gradually were given more direct access to golf balls, and the role of the primary recreationalists diminished. In retrospect, the whole thing turned around only when the golfers became more effective at proving that they could

lower scores by playing their best golf. Eventually, the fact that they knew the most about the game and were the most sophisticated about exactly what the score was led society to again accept their authority.

Obviously, the analogy I've drawn in describing this nightmare is a great oversimplification, but neurosurgeons, like golfers, are problem solvers, and they are being removed from the process of patient care in the name of reducing cost. The managed care system today removes the most knowledgable players, emphasizes only resource utilization, and, despite much talk to the contrary, ignores outcomes.

Now let me emphasize that I am not suggesting that we don't have a big problem in our society with the cost of care. Dr. Kenneth Shine (7), the President of the Institute of Medicine, recently observed that the current rate of increase in the cost of medical care simply cannot continue (Fig. 1). Legitimate arguments can be made that national health care expenditures should be 7 or 12% or even 15% of our gross domestic product, but I think that no one would argue that the rate of increase we have seen in the last 25 years can be sustained. Data from a variety of sources, including most recently the RBRVS Volume Performance Standards, indicate that the cost of surgical care has increased at a slower rate, when compared to overall health care expenditures. Nonetheless, because of the observations of Newhouse (6), indicating that at least half of the current inflation rate for medical care is due to the diffusion of new technology, neurosurgeons and other surgical subspecialists are cited as a major cause of this increase in the cost of care.

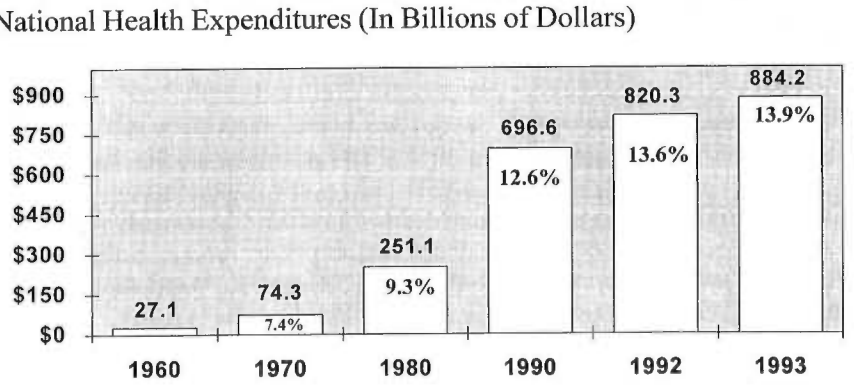

FIG. 1 National health expenditures and percentage of gross domestic product. [Reproduced with permission from: *Socio-Economic Factbook for Surgery 1995.* Chicago, Socioeconomic Affairs Department, American College of Surgeons.]

The corporatization of medicine began many years ago. In the western United States in the 19th century, mining, railroad, and forestry corporations had to provide health care for their employees in rural locations. The rise of Kaiser and other prepaid health-care plans immediately after World War II was at first held in check in the 1970s and 1980s; however, costs rose significantly and the stage was clearly set for managed care to come in and control health care costs when no other element in the private or public sector could do so. As Rhinehart (personal communication) has observed, the managed care companies are like the bounty hunters employed in the 19th century to catch animals who could not be caught by conventional law enforcement. The services of the managed care corporations are engaged by society for the purpose of restraining health care costs.

Recent data indicate that the managed care companies may be meeting with some success. Health insurance premiums in California, for example, appear to be decreasing for the first time in recent memory, and reports from the Congressional Budget Office (2) and other sources indicate that most elderly and employer-based subscribers to managed care plans are happy with the care that they get (although there is evidence that sicker patients are less pleased with their managed care plans). So at least for now, it appears that managed care is firmly entrenched in our health-care system and that no amount of nostalgia for the halcyon days of the '60s, '70s, and early '80s will dislodge it from its position.

Despite the successes that managed care has experienced so far, however, there are a few cracks showing up in the edifice. There is a growing impression that decisions are increasingly being made by the wrong people for the wrong reasons. Recent articles in the *Wall Street Journal* and the *New York Times* (3) have pointed to the increasingly large portion of the health-care dollar that is siphoned to administrative cost and profits in most large, for-profit, HMOs. At U.S. Healthcare, this number approaches 30% of the premiums collected (Fig. 2). The CEO of U.S. Healthcare, Mr. Leonard Abramson, last year earned $9.8 million in salary, bonuses, and options, and his yearly stock dividends accounted for another $11.4 million. The recent novel by John Grisham, *The Rainmaker* (4), describes in detail the inherent conflict between corporate profits and medical loss ratios in a large managed care organization. A group of employers in Minneapolis has recently indicated that they want to get the huge HMOs out of the middle of the relationship between patients and physicians and are trying to contract directly with groups of physicians and hospitals to provide care at a reasonable price. Finally, executives at the Glaxo Corporation, not-

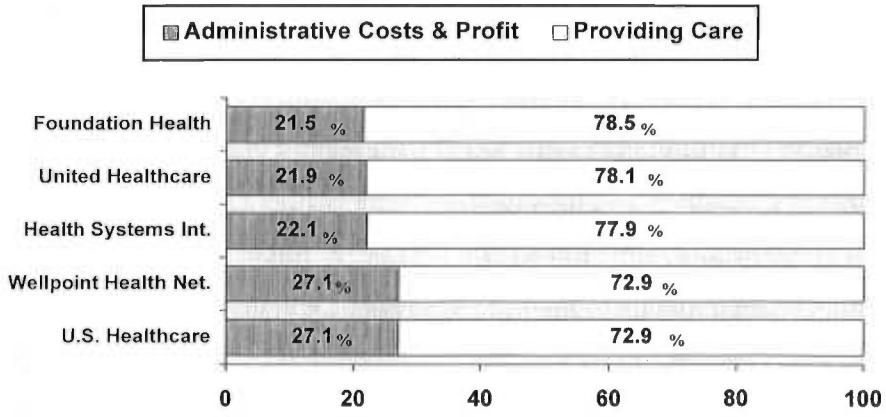

FIG. 2 Premium revenue allocation managed care plans. [Reproduced with permission from (3).]

ing decreased returns on their flagship products, Zantac and Imetrex, have suggested that corporate belt tightening, produced by managed care, may result in decreased corporate investment in research and development, raising the specter of diminished availability of innovations and pharmaceutical treatment for disease. All of these trends indicate that the weakness of the managed care juggernaut is increasingly being recognized by society at large.

Neurosurgeons, therefore, must do two things: (1) realize that managed care is here to stay and (2) devise strategies that will allow us to continue to improve our ability to care for patients within the context of managed care. Changes in the organization and financing of health care have always been difficult for practicing physicians, as this quote from an AMA leader in 1943 illustrates: "The AMA hierarchy was unalterably opposed to Blue Cross and Blue Shield." Our predecessors learned to adapt and thrive with Blue Cross and Blue Shield and, although times are very different now, we must also learn to change. Accepting the need for cost containment does not mean, however, that we must accept the techniques that managed care organizations are using to drive down costs (9). Specifically, neurosurgeons should fight against the tendency of managed care plans to have primary care physicians manage neurosurgical diseases. This simply represents rationing by ignorance. We should also fight the progressive substitution of low-tech, symptomatic treatment in cases in which scientifically based treatments are clearly superior.

Increasingly, fully integrated health care systems and managed care systems will be concerned about the quality of patient care. Pricing is the current battlefield; quality is the next battlefield. Right now, we are at a stage in which managed care companies can vigorously compete on price and be successful in enhancing their market share because of the huge transition that is occurring in health care. Eventually, however, the savings that can be gotten out of this system, even given proportional reductions in cost, will lead to a smaller absolute dollar savings, and plans will no longer be able to discriminate themselves based on cost alone. This stage will rapidly come upon us. Neurosurgery needs to be prepared to demonstrate quantitatively the effectiveness of our interventions and the superiority of a scientifically based approach to patient management and technological improvement.

Our specialty's renewed concentration on its scientific and technical foundation must occur on several levels. First, we must continue to improve our capabilities to care for individual patients. In some ways, we are better off than other specialties. There is a huge reservoir of basic neuroscience information that is waiting for practical application in the treatment of nervous system disease. Right now, only a trickle of this information is flowing into patient care—we need to decrease that flow so that patients can benefit from basic research. I believe that recent advances in the treatment of Parkinson's disease by neurosurgeons will be supplemented by advances in the treatment of neurodegenerative disease, craniospinal trauma, and malignant gliomas. All of this will be possible as a result of collaboration with basic neuroscience and the expansion of our capabilities to deal with nervous system disease. In this regard, I think it is appropriate for the Residency Review Committee in Neurosurgery to significantly enhance the standards of the neurosurgical residency training programs at this time to improve the clinical and research training that our residents receive. The time is right for changes to be made in this area. This will enhance the scientific basis of our discipline.

Such an enhancement of the scientific activities in neurosurgical residency training programs will come at a difficult time, however. Academic centers are being threatened by a multitude of factors. Clinical neurosurgical research supported by patient care revenues will be increasingly difficult, but we must continue to invest in the intellectual and technical infrastructure of our specialty. Organized neurosurgery should also vigorously lobby for continued generous support of basic neuroscience research and *augmented support* of patient-oriented research from the National Institutes of Health. This recommendation is in concert with the new director of the National

Institute of Health, Dr. Varmis, to increase patient-oriented research, despite an overall leveling off of NIH funding as bimedical research enters a steady state.

Another level on which neurosurgery must work to improve its scientific foundation is at the level of defining populations that can benefit from neurosurgical care. I believe that the main reason that neurosurgery and other scientifically based specialties in medicine have been marginalized with the development of managed care is that we have not been rigorous in providing the data to determine the value of what we do. Neurosurgeons must become much more skilled at quantitatively defining the financial cost and clinical benefit of our interventions. It is absolutely imperative, and I cannot emphasize this too much, that neurosurgeons in academic and community practice start to examine patient outcome using modern outcomes assessment and cost benefit analysis techniques. Notable progress has been made in this area by a few neurosurgeons but much, much more needs to be done on this, and it needs to be done rapidly.

Let me give you an example of where I think our lack of participation in population-based outcome studies has hurt us. Last week, an article concerning care for low back pain appeared in the *New England Journal of Medicine*[1]. The authors compared the outcomes among approximately 1500 patients with low back pain seen by primary care physicians, chiropractors, and orthopaedic surgeons. (Neurosurgeons were not included.) They found that the outcomes among all of these patients were essentially the same, no matter what group of practitioners evaluated them. Only about one fifth of the patients had any leg pain, and only in about 30% of the whole group of patients did the duration of the episode of pain last for longer than 2 weeks. Within hours this paper was picked up by the lay press and inappropriately generalized to all patients with back pain.

I believe that studies such as this one suffer from what I call the *High-Altitude Problem.* That is, if you get far enough away from two things they invariably will look the same, no matter how different they are. I recently looked at a photograph of St. Louis taken from the space shuttle. It looks like most of the eastern United States and Europe from this altitude. Similarly, if you look at the entire universe of patients with all types of back pain, no matter how minor or short lived, the positive effects of a careful specialist's evaluation and treatment will be hard to discern. This is the problem with looking at neurosurgical illness through the perspective of an epidemiologist or primary care physician. Neurosurgeons have generally not participated in studies such as this, because they suffer from another problem, the *Low-Al-*

titude Problem. a photograph taken through the operative microscope represents the usual level of perspective we have as neurosurgeons. We are generally so focused on the details of microsurgery, skull base surgery, and biomechanics that we have not taken the time to conduct enough studies that demonstrate our worth in taking care of patients in the context of a defined population. We simply must do more sophisticated assessments of clinical outcomes in our patients.

To handle the volume of data that will result from such studies, neurosurgery must also become much more skilled as a specialty at medical informatics. This will probably be done on a variety of levels in universities, in large integrated health plans, and in individual community practices. *Neurosurgery On Call* has recently been proposed by Dr. Sidney Tolchin, President of the AANS, to enhance outcomes assessment and information transfer between neurosurgeons. This project will be jointly sponsored by the AANS and CNS over the next few years. It is crucial that neurosurgeons take the time to become familiar with information management systems as they impact our specialty. This is the tremendous advantage that the managed care plans have over us at the present time, and we need to change that.

Finally, I believe that we need to continue to vigorously support our journals and major neurosurgical meetings. Over the past few years, attendance at the meetings of the Congress of Neurological Surgeons and the AANS has progressively increased. I believe that this is a logical response to the pressures that are upon us as a specialty. Recently, I have heard a number of opinions indicating that perhaps we cannot have two meetings a year. I do not believe that this is the case. The clinical demands in many practices make it impossible for coverage to be obtained for one meeting, and if neurosurgeons are only able to go to one major meeting every 2 to 3 years, the scientific foundations of our specialty will be eroded. Our meetings represent an extremely important function within our specialty. I believe that our meetings should increasingly concentrate on information technology and outcomes assessment to supplement their traditional emphasis on improvements in neurosurgical diagnosis and technique. It is only through such continuous improvement that our specialty will survive and thrive in the coming years.

Let me finish with some observations on the role of the specialist in today's health care. We have all seen the opinions expressed from multiple sources that there are too many neurosurgeons practicing in the United States. Despite the relative constancy of surgical subspecialists (Fig. 3), Weiner (11), in his study of medical manpower, has predicted that there will be a surplus of 150,000 physicians in the year 2000, and

none of us should accept the propaganda that has emanated from the health policy establishment to suggest that neurosurgical diseases can be treated more effectively by generalists than by neurosurgeons. Such propaganda is widespread today and suggests that prevention and continuity of care can make up for a lack of knowledge and experience in the treatment of nervous system disease. Yet, our practical experience runs counter to these theoretical advantages of generalism. There is hardly any continuity of care in the current managed care maelstrom, and the few treatments that can prevent nervous system disease, such as carotid endarterectomy and clipping of unruptured aneurysms and resection of arteriovenous malformations, are largely administered not by generalists but by neurosurgeons.

Neurosurgery must press for easy access of patients with neurosurgical disease to the neurosurgeon. This is because primary care physicians are simply not equipped to deal with neurosurgical illnesses, as a result of their education and knowledge base. As the work of Ralph Lehman, *et al.* (5) has shown, students at medical schools in the United States have on average 1 to 2 weeks of exposure to neurosurgery and neurosurgery patients during their third-year clerkship. For most primary care physicians, this constitutes the entirety of exposure to neurosurgical diseases throughout their career. Recently, at Barnes Hospital and Washington University in St. Louis, neurology was removed as a rotation from the Pgy 1 year in the internal medicine training program to make space for more ambulatory care. It is extremely unlikely that any changes in training or CME would ever allow primary care physicians to be even marginally competent at dealing with neurosurgical illnesses. I know this from direct personal experience, having been trained in internal medicine years ago. It is remarkable that most training programs in internal medicine go to some length to inculcate residents with a feeling of confidence that they can deal with almost any problem simply because they are internists. How often have each of us witnessed that peculiar sense of confidence as subarachnoid hemorrhages are missed and intracranial mass lesions are mismanaged. Organized neurosurgery must press for early and easy access to patients with neurosurgical illnesses. I am confident that we can provide more cost-effective care with greater patient satisfaction, if patients can see us earlier in the course of their illness.

In summary, if neurosurgery's future is to be as distinguished as it's past, we must adapt to the new practice environment and conclusively document the effectiveness of our scientifically based treatments. We must jump into the fray and battle with the primary care health policy establishment to prove, in appropriately designed outcome studies,

that the care we deliver is superior. Only if we do this will we shed the dysphoria that afflicts all specialists at this time. Neurosurgery's scientific and technical foundation has never been stronger; it's up to us to exploit this opportunity for the benefit of our patients.

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