and to practice defensive medicine. With these misdirected incentives, medicine was unable to contain spiraling costs or to address the issues of cost-effective treatment or allocation of resources.

MANAGED CARE

The door was opened for nonmedical administrators to step in and "manage" how health care services are to be used. Because increased utilization meant increased costs for employers and insurers under fee-for-service reimbursement, it was believed that increasing costs would never be reversed unless utilization incentives were altered. This awoke the sleeping giant. "Managed care," the foundation of which was based purely on cost savings, was embraced by the insurance industry. Employers' demand for cost containment has produced an explosion in the managed care market. HMO- and PPO-managed care products currently comprise one-third of this country's health insurance market, and that figure is expected to grow to one-half by the year 2000. California's experience is indicative of this trend: In 1993 75% of Californians with health insurance were in a managed care plan, while its 5 million Medi-Cal participants began shifting over into managed care plans as well.

Let's look more closely at managed care. The recent annual report from the Physician Payment Review Commission defines managed care as ". . . any system of health service payment or delivery arrangements where the health plan attempts to control or coordinate use of health services by its enrolled members in order to contain health expenditures, improve quality or both. Arrangements often involve a defined delivery system of providers with some form of contractual arrangement with the plan" (4). This definition, however, is much too simplistic to describe the current managed care environment. Managed care today is not just a contractual arrangement, but rather, it incorporates layers of nonmedical managers who have become responsible for overseeing decisions regarding patient care. These managers use statistical comparisons and protocols to guide them in evaluating medical decisions. Unfortunately, there has not been a good assessment of how this process will impact quality of care or the doctor-patient relationship. In this regard, I urge you to read Dr. Theodore Cooper's 1989 Cushing Oration entitled, "Who Manages the Managers" (1). Dr. Cooper pointed out in his address that analysts felt that containment of expenditures in all parts of the health care system could be achieved by altering physician behavior. The intervention of nonmedical managers, by design, limits the physician's ability to make independent decisions regarding patient care and at the same time

severely compromises the physician-patient relationship. This environment is in stark contrast to our tradition of physician-directed care. Dr. Cooper recommends that physicians be placed back in the role of overseeing the medical decisions that are made by the nonmedical managers.

IPAs, PPOs, HMOs, and fully integrated delivery systems have introduced external controls of how medicine is practiced. The concept of managed care seemed reasonable at the outset, with the elimination of unnecessary testing and tight utilization controls. Significant savings were obtained, and there was hope that our scarce supply of health dollars would be better dispersed. Recent trends, however, have shown that managed care is not the remedy for this country's health care problems. As managed care has escalated, our former ideas about peer review and credentialing processes have changed. Physicians are no longer being evaluated on just treatment. Clinical outcome has become the leading gauge by which their success will be evaluated.

The term "economic credentialing" is already used in many areas of the country to describe the shift from previous credentialing criteria to credentialing that is based solely on financial criteria. Managed care has focused on cost containment by trimming waste, but as competition has increased, plans with primary care physician gatekeepers have developed. These physicians are often reimbursed on a capitated basis, and their compensation is determined by the number of tests ordered or the amount of speciality care they utilize. Consequently, there is concern that the influence of financial gain, by denying access to specialty care, may lead to inappropriate rationing of health care. The entire system of rewards is turning upside down. Behaviors that were rewarded in a fee-for-service environment will be punished in a capitation environment. Hospital executives formerly successful at filling beds, nurturing profit centers, generating charges, building extensive inpatient campuses and recruiting specialists are no longer employed. In their place are individuals who know how to negotiate with managed care payers, keep patients out of the hospital, manage the organization as a cost center, develop integrated relationships with physician groups, build a strong primary care base, and manage risk.

As the managed market has become more competitive, there has been a dramatic shift toward consolidation. While the total number of HMO enrollees in the country has continued to grow, the number of HMOs has started to decline. The smaller or less competitive HMOs are either going out of business or are being acquired by larger HMO networks. It is clear that there is an increasing frequency of non profit HMOs converting to profit-seeking organizations. The increased num-

ber of profit-seeking HMOs has resulted in a growing share of premium dollars allocated for administrative overhead and profits. The health care premium dollars now pass into the hands of large, corporate managed care bureaucracies with a corresponding decline in money spent directly on the patient, on reimbursement to the physician, or on improvement of the health care infrastructure.

In a 1994 *Harvard Business Review* article, "Making Competition in Health Care Work," authors Teisberg, Porter, and Brown discuss many of the flaws in how we have looked at competition in our country's health care market (8). The idea of "managed competition" espoused by the current administration has all too often lead to the development of large monopolies, such as we are now seeing in the HMO market. These monopolies have tended to stifle competition and have suppressed the innovative spirit that has made American medicine the best in the world. More importantly, if medical care decisions are to be based solely on statistical norms and protocols, quality of care can only move toward mediocrity. Michael Porter, the second author of the article, is very well known in the business world because of his works on competitive advantage. He and others have stressed that the foundations for competition in business are the ongoing processes of continuous quality improvement and cost reduction. These are terms that many of you have already heard in quality assessment work within your own hospitals. The key to making these processes work, however, is innovation. Any system that undermines the importance of competition within the health care market, impedes innovation, and leads us to mediocrity in medical care can only lead to failure.

NATIONAL HEALTH CARE REFORM

Let us now turn to the debate over national health care reform. As the American health care system has grown, so has its cost to society. Total expenditures in the United States for health care were $69 billion in 1970; by 1980 they had grown to $230 billion; by 1992 they had more than tripled to $800 billion; and by the year 2000 they are expected to reach $1.7 trillion. During Truman's administration our health care expenditures comprised only 4% of the gross domestic product; by 1970 that figure was up to 7.3%; it reached 14.5% of GDP in 1992; and it is projected to reach 19% by the year 2000 (3). It is the rapidly rising health care costs that have fueled the Federal government's present push for national health care reform. The stated objectives of health care reform today are to constrain rising costs, to increase access, and to ensure quality of care.

Containing the escalating costs of health care and providing care to

the estimated 37 million uninsured people in this country are not the issues of debate by organized medicine or society in general. The crucial issues in the debate focus on how to pay for those changes and how to provide competition within the health care market so as to control costs without diminishing access to medical care of choice. Congress, of course, is still entrenched in the health care debate. I do not anticipate radical reform this year. The issue, however, will not go away. Much work yet has to be done to improve our present system without destroying those qualities that have made it great.

CHALLENGES FOR NEUROSURGERY

As physicians, and as an organization of neurosurgeons, we face two large problems: the uncertain impending national health care reform that continues to be debated in Congress and the restrictive effects of the expanding managed care market. We have a responsibility to address these issues to create change in this rapidly evolving environment. Just as the innovative neurosurgical leaders of our past have lead the way in the technical advances in medicine, we must now become the leaders in the financial restructuring of our health care system.

Fundamental services that must be provided by organized neurosurgery are education of the membership on health care issues, access to an improved communication network with vital data, and critical responses to proposed governmental regulations. As in any meaningful endeavor, a solid educational foundation is of paramount importance. Both of our national organizations are working diligently to provide the educational framework needed to guide and direct neurosurgeons in the issues of health care reform and managed care.

Educational Role

The AMA series, "Medicine in Transition," provides an excellent resource for understanding the managed care market and the physicians' role in the development of integrated health care systems (2). Both the Congress of Neurological Surgeons (CNS) and the American Association of Neurological Surgeons (AANS), along with the Joint Managed Care Task Force, have provided several courses and manuals to better educate neurosurgeons about managed care. I think today's General Scientific Session further highlights the importance that the CNS places on the need to expand our knowledge in this area. The CNS and the AANS will continue to increase the number, the availability, and the quality of the educational programs that will help prepare neurosurgeons to lead the way in health care reform. You as individual neu-

rosurgeons, however, must avail yourself of those opportunities. The days of solely concerning ourselves with improving our technical skills are gone. Our involvement in creating change in the delivery of health care is equally as important as our surgical prowess.

Communication

Communication and data are also becoming increasingly essential tools for working in the current health care environment. They are being aggressively researched. The joint CNS/AANS Computer Task Force has begun to address the communication and informational data needs of neurosurgery. The COSIN (Clinical Outcomes Studies in Neurosurgery) office has been established by the CNS to provide technical support for clinical outcome studies in neurosurgery. The AANS has an active committee working on guideline and outcomes development. All of these efforts will help to provide the coordinated information services that we will need to compete in the future.

Response to Governmental Regulations

The activities of the Washington Committee have significantly escalated this past year. The Key Person Program, which develops close ties for organized neurosurgery with our Federal legislators, has greatly increased its efforts over the last year. The Washington Committee has continued to monitor and respond to the proposed changes in the RBRVS fee schedule and to other rulings proposed by HCFA. Through the Washington office, both the AANS and the CNS have joined the Patient Access to Specialty Care Coalition, and both support the Patient Protection Act (HR4527). The Washington Committee will continue to monitor and respond to all proposed governmental regulations pertaining to health care.

Role of the Individual Neurosurgeon

What can the individual neurosurgeon do? How can each of us help to restructure the health care market in our respective local environments? There is no cookbook answer to these questions. The true potential for lasting health care reform lies in our hands. Sidney Garfield had no blueprint when he developed a prepaid health plan for Henry Kaiser back in 1933, yet the effects of his innovative ideas have been felt by all of us. It is difficult, however, to face the risks and uncertainties associated with forging into uncharted waters. Change is never easy but initiating change can be absolutely frightening. This health care transformation will be difficult and complicated, but it may help us to remember the simple but profound words of a famous child-

hood author. In this book *Oh, The Places You'll Go!,* Theodor Geisel, better known as Dr. Seuss, encourages us as only he can (5):

> You have brains in your head
> You have feet in your shoes
> You can steer yourself any direction you choose
> You're on your own
> and you know what you know
> and YOU are the guy who'll decide where to go

Keeping these words in mind can help us to challenge the current health care delivery system as we strive to develop a better one. We must be ready to lead our colleagues in this time of uncertainty.

Let's look at some specific areas that we individually can address. Teisberg, Porter, and Brown in their article on competition in health care listed four key elements necessary for any lasting cure for the U.S. health care system. They are: corrected incentives to spur productive competition, universal coverage to secure economic efficiency, relevant information to ensure meaningful choice, and vigorous innovation to guarantee dynamic improvement.

CORRECTED INCENTIVES

To correct the incentives for physicians, we must critically evaluate the effects of fee-for-service payment and crisis management, as well as the current movement toward capitated reimbursement and disease prevention. As long as our incentive for reimbursement continues to be based solely on sickness, rather than wellness, health care costs will continue to rise. We must get away from those misdirected incentives that have encouraged us to do more procedures, order more tests, and practice defensive medicine. It is important for us to realize that we are on common ground with our primary care colleagues in this realignment of physician incentives. One of my local primary care physicians has aptly expressed this idea by saying that "Physicians have more in common with each other than with any hospital or insurance company" (Langley W, personal communication, 1994). Primary care physicians control the flow of patients in the nonmanaged care market. That control has been dramatically enhanced in the managed care market as primary care physicians have been made the gatekeepers in some tightly controlled managed care plans. By working with primary care physicians, our leadership in the development of integrated delivery systems is still possible. By working against other physicians, we will fail to have any voice in this evolving health care system. We must, however, address these issues soon. At the AANS Annual Meeting in

San Diego, Dr. Jacque J. Sokolov told us in his address, "The Role of the Surgical Specialist in the Future of Health Care," that the development of integrated delivery systems must begin while physicians still have the capital to undertake such projects (6). He outlined for us the popular movement toward integrated delivery systems, but he made it very clear that the large amount of capital necessary to finance such endeavors may not be available to us much longer. If we wish to maintain any control or ownership of these developing health care systems, we must be ready to act now and must not wait until we are facing huge corporate monopolies against which will we be unable to compete.

UNIVERSAL COVERAGE

Universal coverage, which is currently being proposed by the present administration, is still a central issue in the ongoing health care debate. The inefficiencies within our health care system produced by uncompensated care would be eliminated by providing coverage for all Americans. Most, if not all of the national medical societies, support universal coverage. It would be beneficial not only for medicine, but also and more importantly, it would be advantageous for society as well. The focus in the debate, however, is whether society can afford universal coverage in the form in which it has presently been proposed. Financing of universal coverage, whether by employer mandate or individual mandate, is still undecided. We must continue to work at the local and state levels to ensure that health care benefits are provided to a broader segment of our society.

MEANINGFUL DATA

As patients become better-educated consumers of health care services, meaningful data, which include costs and effectiveness of treatments, will allow them to make informed choices about their care. The outcome data from individual practices will become essential marketing information for physicians as they negotiate with managed care plans and other insurers. As an example, if we wish to become the primary caregivers to patients with spine disorders we will need to prove that we can provide the most cost effective care with the best outcomes. To be useful, that data must relate to and be provided by individual practices. National norms are unlikely to give good practitioners an upper hand in competitive markets. Computerization, software upgrades, and practice consolidations can help us to generate meaningful data that we can use in managed care negotiations. With the ongoing work for the development of a national neurosurgical computer online sys-

tem, you will be able to share, pool, and compare data with other neurosurgical colleagues. This data can be used to augment the guidelines that are also being developed at the national level.

INNOVATION

Managed competition, as it has been proposed, may assist in the management of health care but does not lead to competition within the health care market. Communities that already have a high penetration of managed care have witnessed the trend of HMOs combining into even larger monopolistic entities. These large, managed care corporations stifle innovation in the delivery of health care. If we do not put innovation back into the health care delivery system, we will see the entire system move toward unacceptable mediocrity. Neither managed competition as it has been proposed nor any component of the health care reform plans being debated in Congress will solve our present financial health care crisis. Managed care, capitation payments, and integrated delivery systems define the parameters within which we must presently work. Understanding and working in such a system is essential for our immediate survival. Those concepts, however, will not sustain our health care system.

CONCLUSION

Redirecting physician incentives, providing universal coverage, improving access to meaningful information, and providing innovation are the key components to solving this crisis. Those changes must focus on true competition and innovative ideas, which we must provide. In the past, the innovation in health care has come from physicians, and physicians must provide it in the future. Now is the time for action. Once again, we can use the words of Theodor Geisel to inspire us:

> So . . .
> Be your name Buxbaum or Bixby or Bray
> or Mordaci Ali Van Allen O'Shea,
> You're off to great places!
> Today is your day!
> Your mountain is waiting!
> So . . . get on your way!

No one could put it more clearly or succinctly than Dr. Seuss. Take his words to heart. The challenge lies before us, and the opportunities are endless. Just as Sidney Garfield revolutionized health care delivery more than 60 years ago, now is the time to introduce revolutionary changes of our own. Do not sit idly by while our health care system fur-

ther deteriorates. Allow yourselves to be the innovative leaders that will give this country a new and better system of health care delivery. So remember, your mountain is waiting! Get on your way!

REFERENCES

1. Cooper T: Who manages the managers. **J Neurosurg** 71:311–315, 1989.
2. Medicine in Transition: A series produced by the Doctors Resource Service of the American Medical Association. Chicago, AMA, 1994.
3. Physician Payment Review Commission: *Annual Report to Congress,* 1993, p 1.
4. Physician Payment Review Commission: *Annual Report to Congress,* 1994, p 484.
5. Seuss, Dr. (Theodor Geisel): *Oh, The Places You Will Go!* New York, Random House, 1990.
6. Sokolov JJ: The role of the surgical specialist in the future of health care. The Richard C. Schneider Lecture. Presented at the Annual Meeting of the American Association of Neurological Surgeons, San Diego, 1994.
7. Starr P: *The Social Transformation of American Medicine.* New York, Basic Books, 1982, p 393.
8. Teisberg EO, Porter ME, Brown GB: Making competition in health care work. **Harvard Bus Rev** July-August:131–141, 1994.