READY OR NOT, HERE IT COMES: MEDICAL PRACTICE IN THE NEW MILLENNIUM

Alan B. Bernstein, MD, MPH, FAAP

A Sign of the Times

You are a first-year resident covering the general medicine floor at a university hospital when a patient with moderate respiratory distress is admitted to your service. After performing a history and physical examination, you order a series of laboratory tests and chest films and arrange for a pulmonary consultation. You start the patient on a third-generation cephalosporin, a bronchodilator, and oxygen by mask. On rounds the next day, after discussing the differential diagnosis, the attending internist asks you why the patient is not on the hospital's critical pathway for asthma management, why you ordered a chemistry 20 profile on the patient, and why you chose such an expensive antibiotic. Later in the day, a utilization review nurse informs you that the pulmonary consultant you requested is not in the specialty network of the patient's health plan, and the allotted length of stay for this patient is 3 days.

Does this sound familiar? Although many elements of this scenario did not exist 20 years ago when I was a pediatric resident at a university-based children's hospital in New York City, most would apply to residents in training today. In the past decade, health care has undergone dramatic changes, many in response to the Clinton health care reform proposal that was defeated in Congress in the early 1990s. This proposal was driven by the parallel phenomena of a rising population of uninsured Americans and predictions by the Congressional Budget Office in June 1993 that the United States would be spending close to 20% of its gross domestic product (GDP) on health care by the year 2000.

Access and cost continue to be major forces driving health care evolution, one of the most significant aspects of which has been the emergence and growth of managed care. Although managed care comes in many shapes and sizes, its basic tenets are a shift in care emphasis from a patient to a population focus and from disease treatment to disease prevention. These shifts have enormous implications at every level of the health care system.

Most members of the medical community, including (as the scenario above illustrates) physicians in training, are already experiencing the realities of working in a managed care environment. The growth of managed health care has profound implications for new physicians, as traditional clinical training bears little resemblance to modern medical practice in this new environment. Following is a brief look at how the growth of managed care and other major health care trends of the past decade will likely affect the future practice of medicine.

Health Care Trends and Implications for Future Physicians

Growth of Managed Care

Managed care can be loosely defined as a delivery system that attempts to manage the cost of, quality of, and access to health care. Managed care systems generally involve a contracted network of providers who are paid predetermined fees to care for a defined population that receives a specified set of benefits. In addition, there is an overlay of utilization review (including preauthorization and case management) and quality management.

Health maintenance organizations (HMOs) have been the traditional providers of managed care through a variety of organizational models.

- In a **staff-model HMO**, health services are delivered by physicians who are employed by the HMO.
- In a **group-model HMO**, the HMO contracts with one large organized multispecialty group that provides health services; a **network-model HMO** contracts with two or more independent group practices.
- In an **independent practice association**, the HMO contracts directly with individual physicians in independent practices, with one or more independently practicing physician associations, and / or with one or more multispecialty group practices.

In addition to differing in structure, various configurations within HMOs control the ease with which

Alan B. Bernstein, MD, MPH, FAAP, Chief Medical Officer, UtiliMED, Inc., Northbrook, IL.

members can access physicians within the plan network. In a gatekeeper plan, members typically must see their primary care physician to obtain a referral for specialty care or laboratory testing. In a point-of-service (POS) plan, members generally have access to specialty care without a referral from their primary care physician. In a preferred provider organization, members have the greatest freedom to seek care from a large network of primary and specialty care physicians.

Over the past 7 years, managed health care has expanded from its origins in northern California to become a national phenomenon. According to InterStudy's latest HMO Industry Report, HMO membership reached 72.3 million in July 1997—more than double the number that was recorded in July 1990 (ie, 34.7 million) [1]. This growth was seen not only in the number of commercially insured but also in Medicare HMO membership, which has more than doubled, and Medicaid HMO membership, which has more than tripled over the past 4 years alone. Key factors influencing the growth of managed care have been the rising cost of health care as a part of employer benefit packages in the private sector and the desire of the federal and state governments to control cost by shifting more public sector insurance recipients into managed care plans. The increased demand for managed care services also has led to a steady rise in the number of physicians with managed care contracts (eg, from 56% in 1983 to 83% in 1995 [2]).

New and future physicians can expect that contracting with managed care plans will encompass an increasing part of their practice. Furthermore, managed care will affect the number and types of tests and medications a physician will order, the hospital length of stay for a given patient (as well as the choice of alternatives to a hospital stay), and how satisfied patients are with the care they receive.

Changing Nature and Style of Medical Practice

During the 1960s and 1970s, solo practitioners were the dominant providers of care in many regions of the United States, and graduating residents viewed solo practice as the way to maximize earned income as well as autonomy. Today, the solo practitioner has become somewhat of an endangered species, as an increasing number of physicians opt for employment within an HMO or a group practice. According to the American Medical Association, 45.4% of practicing physicians were employed by HMOs or large group practices in 1995, up from only about 25% in 1983 [2]. In that same year, only about 40% of physicians were in solo practice, with 32% practicing in groups of five or more physicians. This trend to larger group practices will continue as managed care organizations seek to develop financial risk contracts with physicians.

Emergence of New Drugs and Technologies

The ever-increasing number of new drugs and technologies for use in practice creates an ongoing need for graduating residents to follow the medical literature carefully in order to make ethical and cost-effective clinical decisions. For example, the number of new drugs approved by the Food and Drug Administration rose from approximately 20 in 1994 to more than 50 in 1996. This increase does not take into account the hundreds of vaccines, drugs based on human biological products, generic formulations, over-the-counter medications, and alternative medicines and therapies brought to the market every year. Information about the true outcomes profile and cost impact of such new products will determine their eventual niche in the market.

With increasing regularity, new techniques for diagnosing and treating diseases also are being developed and incorporated into practice. For example, molecular biology, gene manipulation, and more sophisticated techniques in radiology and laboratory testing have made the diagnosis and treatment of such common but previously untreatable diseases as AIDS, multiple sclerosis, Alzheimer's disease, and sickle cell disease a near-future reality. In addition, new advances in neonatology have allowed increasingly lower birth weight infants to survive, and new approaches to the urgent management of strokes and acute myocardial infarctions have significantly prolonged the life span of the elderly.

The growing number of new drugs and technologies raises important questions for the new physician. For example, how does one decide among treatments with marginally different efficacies but significantly different costs, and who should receive these treatments? The Oregon Health Experiment, whereby Medicaid recipients in that state could not access a list of care options derived by cost-benefit analysis, is one example of a solution [3,4]. Finally, what constitutes reasonable evidence to change the status of a treatment from experimental to standard of care? The answer has profound implications for coverage decisions being made by health insurance companies.

Increasing Elderly Population

The ranks of the elderly are expected to grow dramatically over the next 50 years, largely due to the aging of the baby boomers. Currently, there are 34 million people in the United States over age 65, a number that is expected

to increase by 56% to more than 53 million in 2020 [5]. During that time, the number of people over the age of 85 is expected to increase by more than 80% [5].

The increasing elderly population has important implications for the future health care system. The likelihood that an adult over the age of 85 will need skilled nursing care is estimated to be as high as 70% [5]. In the future, this care will move increasingly from the hospital to alternative settings ranging from complex skilled nursing facilities, to assisted living residences, to simple home health care.

A new approach to health care coverage will be critically needed. Currently, most individuals over age 65 receive coverage from the government-sponsored Medicare program. However, due to its attractive benefits package and low cost, an increasing proportion of the elderly population is shifting to Medicare HMOs. In 1997, 4.8 million or 30% of Medicare-eligible individuals were in Medicare HMOs; this represents a 118% increase since 1993 [1]. The current and future administrations will be challenged to find ways to provide adequate coverage with limited health dollars. Various proposals, such as raising the age limit for coverage or limiting the amount of coverage by income bracket, attempt to address this problem.

Emphasis on Outcome-Based Quality Management

The health care market is no longer relying solely on traditional measures of quality of care, such as the percentage of Board-certified physicians, medical record audits, or compliance with safety codes. These quality measures fall into the structure and process categories originally described by Donabedian in the 1960s and 1970s [6].

Health care consumers and payers are now demanding accountability for health outcomes. For example, health plans must demonstrate efforts to raise mammography and immunization rates, to improve eye and foot care for diabetics, and to insure that patients with congestive heart failure are on proper medication. In a Wall Street Journal/NBC News poll taken between June 18 and June 21, 1998, 23% of those polled stated that quality was the most important issue in health care at the present time, up from only 8% in 1993 [7].

Outcome measures increasingly used to quantify the value of health care fall into four categories.

- **Financial outcomes** include utilization of services for specific patient cohorts and the cost of providing these services. Such outcomes can be measured as utilization rates for services, cost per service rendered, and overall costs. Total cost of care per patient generally is considered rather than the cost of an isolated episode of care.
- **Performance outcomes** include internal measures of organizational performance and external evaluations based on patient, provider, and payer satisfaction. Several commercially available patient satisfaction surveys, including a comprehensive one offered by the National Committee on Quality Assurance (NCQA), assess various aspects of care.
- **Clinical outcomes** quantify the effectiveness and appropriateness of the type of care and treatment provided. In a hospital setting, such outcomes may include nosocomial infection rates, readmission rates, adverse drug reactions, and deaths during or after elective surgery. In addition, specific surgical procedures such as carotid endarterectomy and coronary artery bypass grafting have been studied in large scale trials in an attempt to ascertain predictive factors for positive outcomes [8].
- **Perceived health outcomes** encompass the broadest category of outcome measurement and serve to evaluate a patient's perception of his or her own health status and perceived quality of life. The SF-36 instrument is the prototypical tool used to evaluate health outcomes in a patient population.

With the shift in emphasis to outcome-based quality, individual physician practices will be measured and ultimately rewarded for improving outcomes in their patients. Current physician profiling models already are looking at individual practices that impact outcomes, such as immunization rates, hemoglobin A_{1c} levels in diabetic patients, and mammography rates for women over age 50. Furthermore, health plan compensation models have begun to link improvement of such outcomes with rewards for individual physicians [9].

Rise of Medical Consumerism

Unlike consumers of other goods and services, patients historically have had little say in purchasing decisions impacting the value of the health care that is delivered. Employers, providers, and third-party payers have traditionally made the decisions as to what care is provided and where that care is rendered for the average patient.

In 1998, consumers are much better informed and more assertive about their care and more demanding about quality, access, price, and choice. Employers have responded by selecting health plans with a greater variety of coverage options and benefit designs, thereby providing greater choice for their employees. Employee demand for choice and access

Table 1. Educational Objectives of a Managed Care Curriculum for Physicians-in-Training

Domain	Knowledge Objectives	Skill Objectives	Attitude Objectives
	By the completion of training, a physician should be able to:		
Medical care	Describe the principles of population-based medicine Describe guidelines for primary, secondary, and tertiary prevention Discuss the benefits and limitations of disease management	Use outcomes research for medical decision making Apply practice guidelines to individual cases Manage patients' problems effectively over the telephone	Value prevention as a cost-containment measure Balance an individual with a population perspective Value a biopsychosocial approach to patient care
Patients	Explain the use of patient satisfaction measures Contrast physician-patient relationship issues in managed care to those in other medical care systems Discuss the concept of membership in a managed care plan	Use the physician-patient relationship to maximize health care Engage patients in decision making Design a personalized health maintenance plan and negotiate it with a patient	Strive to improve and maintain high quality physician-patient relationships Acknowledge the importance of patient education Value a continuous relationship between patient and primary care physician
Systems	Distinguish managed care from other forms of health care, and contrast different types of managed care Describe quality of care assessment methods Explain the principles of cost containment and utilization management	Perform a quality management investigation Design organizational methods to enhance continuity of care Use managed care terminology appropriately	Support cost-conscious approaches to health care Demonstrate a commitment to continuous quality improvement
Physicians	Explain how managed care organizations use performance reports to change provider behavior Discuss the role of primary care and specialty care physicians in a variety of managed care settings Identify the responsibilities of team leaders and team members	Apply ethical principles to managed care patient situations Collaborate effectively with other physicians and non-physician providers Interpret implications of written contracts between physicians and managed care organizations	Recognize the efficiency, added value, and cost-effectiveness of team collaboration Understand the value of primary care physicians as coordinators of care and patient advocates Demonstrate flexibility in adapting to health care system changes

Adapted with permission from Devries JM, Berkelhamer JE, Molteni RA, Edwards KS, Katchur EK. Developing models for pediatric residency training in managed care settings. Pediatrics 1998;101 Suppl:754.

has lead to the dramatic rise in enrollment in POS health plans, which offer greater freedom in selecting specialists and hospitals. In fact, POS plans had the largest gain in market share between 1993 and 1995 [10]. Politicians have responded with a panoply of health care legislation in the last 5 years, which not only gives consumers more say in their care but also dictates how that care will be rendered. In 1996 alone, 1000 pieces of legislation attempting to regulate HMOs were introduced in state legislatures, and 56 laws were passed in 35 states [11]. Recent bills mandating minimum lengths of stay for normal delivery and for uncomplicated breast cancer surgery were derived directly from local consumer backlash.

Although cost often was the primary driver in employer selection of health care coverage in the past, quality is emerging as an equally important factor. In a recent survey of more than 200 benefits managers of

larger employer groups, 56% expected to use quality assessment more fully in selecting a health plan [12]. Since most employers depend on ratings provided by accrediting bodies such as NCQA, it is not surprising that approximately 50% of HMOs—representing 75% of people enrolled in HMOs—have gone through the NCQA accreditation process [13].

Introducing *Seminars in Medical Practice*

New physicians currently entering the health care system face many unfamiliar concepts that underlie modern medical practice (eg, full-risk capitation, quality assurance measures, outcome-based compensation plans). As the health care system increasingly tends toward integration within various managed care models, many new skills, knowledge, and practice behaviors will be demanded of physicians (Table 1). These gaps in the clinical training process are increasingly recognized, as evidenced by a growing interest in and demand for methods and materials to teach managed care principles to postgraduate trainees, faculty, and medical students [14–19].

It is for this reason that *Seminars in Medical Practice* has been created. The goal of this new publication is to facilitate an understanding of the business side and mechanics of modern health care delivery as well as the concepts underlying quality, cost-efficient, and ethical health care. Each future issue will explore a major topic in modern health care practice and will combine didactic material, real-life examples, and editorial commentary. Major themes will include fundamental concepts of modern health care delivery, evolving expectations for quality of care and clinical resource management, ethical dilemmas faced in the new health care environment, overall impact of managed care on the health of the population, changes in medical education necessitated by the emergence of managed care, and opportunities and challenges for physicians.

In the inaugural issue of *Seminars in Medical Practice*, the Editors have chosen to highlight three areas of critical importance to housestaff, fellows, junior faculty in the hospital setting, and physicians newly in practice: principles and practical applications of quality of care measurement, the role of physicians in clinical resource management, and the impact of managed care on the physician-patient relationship.

References

1. The InterStudy Competitive Edge 8.1 Industry Report. Bloomington (MN): InterStudy Publications; 1998.
2. Mitka M. Doctors opt for employment, larger groups. American Medical News 1997;40(3):1,33.
3. Bodenheimer T. The Oregon Health Plan: lessons for the nation. First of two parts. N Engl J Med 1997; 337:651–5.
4. Bodenheimer T. The Oregon Health Plan: lessons for the nation. Second of two parts. N Engl J Med 1997;337:720–3.
5. Price L, Baxley K, Hudson C. Long-term care. Leaders of tomorrow will change things today. New York: CIBC Oppenhmeimer Publication Number 98-3093;1998:2.
6. Donabedian A. Explorations in quality assessment and monitoring. Vol. 1. The definition of quality and approaches to its assessment. Ann Arbor (MI): Health Administration Press; 1980.
7. Hunt AR. Politicians risk voter backlash this autumn if they ignore call for action. Wall Street Journal 1998 Jun 25;A12.
8. Shekelle PG, Kahan JP, Bernstein SJ, Leape LL, Kamberg CJ, Park RE. The reproducibility of a method to identify the overuse and underuse of medical procedures. N Engl J Med 1998;338:1888–95.
9. Schlackman N. Integrating quality assessment and physician incentive payment. QRB Qual Rev Bull 1989;15:234–7.
10. Jensen GA, Morrisey MA, Gaffney S, Liston DK. The new dominance of managed care: insurance trends in the 1990s. Health Aff (Millwood) 1997;16:125–36.
11. Bodenheimer T. The HMO backlash: righteous or reactionary? N Engl J Med 1996;335:1601–4.
12. Beauregard TR, Winston KR. Employers shift to quality to evaluate and manage their health plans. Manage Care Q 1997;5:51–6.
13. National Committee for Quality Assurance. Managed care organization accreditation status list. 1998 Jun 30. Available from: http://www.ncqa.org/aslftp.htm.
14. Meyer G, Potter A, Gary N. A national survey to define a new core curriculum to prepare physicians for managed care practice. Acad Med 1997;72:669–76.
15. Hewson MG, Fishleder AJ, Halperin AK, Henry CA, Isaacson H, Kachur E, et al. Educating residents for managed care: report on a multidisciplinary conference. Acad Med 1998;73:479–87.
16. Friedman E. Managed care and medical education: hard cases and hard choices. Acad Med 1997;72:325–31.
17. Finkelstein JA, Palfrey JS, editors. Pediatric residency training in an era of managed care. Pediatrics 1998; 101 Suppl:735–812.
18. Finocchio LJ, Bailiff PJ, Grant RW, O'Neil EH. Professional competencies in the changing health care system: physician views on the importance and adequacies of formal training in medical school. Acad Med 1995;70:1023–8.
19. Group Health Association of America. Primary care physicians: recommendations to reform medical education: competencies needed to practice in HMOs. Washington (DC): Group Health Association of America; 1993.