Henry Ford Hospital Medical Journal

Volume 34 | Number 4 Article 2

12-1986

Health Care Delivery System: Current Trends and Prospects for the Future

Vinod K. Sahney

Douglas S. Peters

Stanley R. Nelson

Health Care Delivery System: Current Trends and Prospects for the Future

Vinod K. Sahney, PhD,* Douglas S. Peters,† and Stanley R. Nelson‡

The health care delivery system is undergoing rapid change, which is most pronounced in the hospital sector. The vocabulary of the industry is changing, with the terms commonly used in the 1970s and early 1980s such as access to care, certificate of need, health system agencies, rate review, length of stay monitoring, capital caps, cost containment, and utilization review being replaced by terms such as prospective payment system, diagnostic related groups (DRGs), preferred provider organizations (PPOs), health maintenance organizations (HMOs), price competition, and hospital marketing. The former era could be called the regulatory period, and it seems like the health care industry has suddenly found a new religion, the belief in a "competitive model."

Historically, not-for-profit hospitals have dominated the health care system. Most of the hospitals were founded as charitable organizations to serve the needs of the community. The early hospitals were founded to house people during epidemics. In 1873 there were only 178 hospitals and less than 35,000 beds in the United States. Technology developments changed the role of the hospital from a public health function to that of providing patient care services. The development of anesthesia allowed more serious operations to be performed. The number of hospitals grew rapidly. By 1909 there were over 4,300 hospitals with 421,000 beds, a major increase over 1870's level (1).

"Most of the regulatory approaches failed to control the increases in the health care expenditures."

Gradual growth occurred in the hospital industry from 1910 to 1965. The next major growth occurred with the passage of Medicare and Medicaid legislation. These two legislations extended access to health care to the low-income groups and the elderly. The health care industry responded quickly to the incentives provided by the government to expand the delivery system. A few years after its legislative approval, it became clear that Medicare cost would far exceed the earlier projections. Soon, a whole host of regulations were enacted that put limits on hospital cost increases. Various agencies, mainly health system agencies, were set up to regulate the industry. These agencies were federally funded with the objective of approving new programs initiated by hospitals. Other such programs were the federally funded Professional Standards Review Organizations, which were authorized to deny payments for unnecessary hospital care. Nevertheless, most of the regulatory approaches failed to control the increases in health care expenditures (2). More recently, the industry has moved toward a competitive model.

During the past decade a few key trends have emerged. We summarize a few of these trends and issues facing the health care delivery system and discuss the prospects for the future.

Economics

Health care cost increases have moderated during the past few years. Health care expenditure increases reached a high of 15.3% in 1983 and have since gradually declined. Health care experts predict the expenditure increases for the period 1984 to 1990 to be around 8.7% annually (3). Hospital length of stays have dropped for the past four years, and the admission rates have dropped for the past three years. In contrast to inpatient care, outpatient care is growing at an average annual rate of 14.5%. Most analysts believe that the hospital sector has been squeezed to its fullest and that the aging of the population will soon cause a turnaround in hospital utilization. The prognosis for the near future is a leveling of length of stay and a smaller decline in admission rates for the next few years. Hospital ambulatory care will continue to grow at a rapid pace.

Financing

The private health insurance market has been shifting from indemnity insurance to prepaid health plans. HMOs have been growing at a rapid pace. As of 1986, 23.7 million people were

Submitted for publication: February 9, 1987.
Accepted for publication: February 16, 1987.
*Professor of Industrial Engineering and Operations Research, Wayne State University, and Vice President, Henry Ford Health Care Corporation.
†President, Henry Ford Hospital.
‡President, Henry Ford Health Care Corporation.
Address correspondence to Dr Sahney, Vice President, Henry Ford Health Care Corporation, Henry Ford Hospital, 2799 W Grand Blvd, Detroit, MI 48202.

enrolled in 595 HMOs across the country (4). By 1988, total HMO enrollment is expected to soar to 33.5 million or 14% of the population (5). Some analysts predict that by 1990 HMOs will account for 22% and PPOs 47% of the market share of the health care insurance business (6).

"During the past year the Health Care Financing Administration has reduced Medicare payments to the providers by recalibrating DRG payments, raising deductibles for the elderly, reducing payments for medical education, and allowing price increases well below cost increases in the industry."

Most major employers have developed an active program to monitor the cost of health care. This activity is viewed as a purchased commodity rather than as a benefit to be handled by the personnel department. Employers have been active in pushing HMOs/PPOs, utilization reviews, ambulatory surgery, and preadmission certification (7). Many employers have changed their benefit package to put coinsurance and deductibles in their health care benefits.

The third parties will continue to pressure the providers to reduce health care utilization. With the growing deficit in the federal budget, providers should not expect any relief from the federal retrenchment in the health care arena. During the past year the Health Care Financing Administration has reduced Medicare payments to the providers by recalibrating DRG payments, raising deductibles for the elderly, reducing payments for medical education, and allowing price increases well below cost increases in the industry. The trends point to continued federal retrenchment with projected reductions in capital cost reimbursement and medical education costs during the approaching years. Industry leaders (8) expect that a means test may be attached to eligibility rules for future Medicare insurance and/or the age of eligibility may be raised to 70 years of age from the current 65 years of age within the next five years. The long-term prospects point to the replacement of the current system of payment using DRGs to a capitation-based system for Medicare. A similar development is expected for the state Medicaid programs (9).

The business sector is expected to continue to be more demanding of the health care providers and the intermediaries. The trend away from first dollar coverage will continue. Companies will introduce and encourage their employees' participation in HMOs/PPOs and introduce additional utilization controls in the nonprepaid insurance programs.

The Medically Indigent

As the hospital industry moves from regulated, cost-based reimbursement to a price competitive industry, the subject of providing health care for the medically indigent is becoming a major issue. Traditionally, hospitals have used cross-subsidization to fund indigent care. Also, under a noncompetitive environment, hospitals considered themselves a community charitable resource and used their net earnings to finance care for the poor. It was not uncommon for the hospitals during the 1970s to open clinics for the poor, the unwed mothers, and migrant workers.

The move of hospitals from a regulated industry to a price competitive industry has put enormous pressures on the management of the hospitals to change their behavior. Hospitals can no longer afford to cross-subsidize the indigent in a price competitive market. In addition, hospitals need to protect their net income level, since the bond rating agencies (Moody's and Standard and Poor's) have guidelines that include tests for net earnings if the hospitals want their bonds rated favorably in the capital markets.

Manpower

During the past quarter century we have seen a dramatic increase in the number of physicians in active practice in the United States. Since 1950, the number of physicians has grown by 140%. The number of medical school graduates has increased from 7,081 in 1960 to 15,135 in 1980. By 1985, the United States was graduating 17,000 physicians annually (10). The number of medical schools increased from 86 in 1960 to 126 in 1980, and the number of foreign medical graduates increased from 31,000 in 1963 to 87,000 in 1977. In addition, a number of United States citizens are studying medicine abroad and returning to the United States to practice.

A recent study, The Graduate Medical Education National Advisory Council (GMENAC) study (11), has projected a significant surplus of physicians in most specialties by 1990. The largest surplus is projected in general surgical specialties, with shortages projected in psychiatry and emergency specialties.

In 1976 Congress adopted new immigration policies to reduce the influx of physicians. Despite such efforts, physicians in active practice increased from 370,000 in 1975 to 450,000 in 1980. This number is expected to rise to 600,000 by 1990. The Office of Technology Assessment has projected a surplus of 180,000 physicians in 1990, while the GMENAC study projects a surplus of 70,000 by 1990. Most of these projections were made before the rapid growth of prepaid programs during the past few years. The prepaid programs may further reduce the need for physicians by the use of related professionals and paramedical personnel and by reduced utilization rates of health care services.

The number of registered nurses has grown from 750,000 in 1970 to 1,164,000 in 1980. The number of registered nurses per 100,000 population has increased from 368.9 to 520.1, a growth of over 40% (12). Even with this growth, hospitals are currently experiencing tremendous shortages in registered nurse staff in such areas as critical care, emergency room, special care units, and generally in high-intensity patient care areas. The shortage can be attributed to a high percentage of nurses dropping out of the nursing field. In addition, the nursing profession now has many other opportunities in health care aside from the inpatient setting, including ambulatory care, utilization review, quality assurance departments, HMOs, home health care agencies, and

outpatient surgery (12). Nurses have found that these positions do not require night shift rotation or weekend coverage. The current wage and salary system prevalent in hospitals has not offered enough wage differentials to attract nursing personnel to the needed inpatient areas.

With the decline of enrollment in higher education that is expected in the next decade, which is due to the decline in high school graduates expected, hospitals should expect continuing shortages of nurses in critical areas. Furthermore, an increasing number of women are choosing other professions, including medicine, law, engineering, and business management. This further depletes the number of people selecting nursing as a career.

The impact of this projected shortage is a need for hospitals to employ a combination of strategies to increase the availability of nurses. These strategies include differential wages for unpopular jobs and/or shifts and use of paraprofessionals including licensed practical nurses and aides. In the long run, a restructuring of the nursing job may be necessary by the use of paraprofessionals trained in other fields, eg, pharmacists and respiratory therapists, to lessen the burden of work on the nursing personnel.

"Through these for-profit subsidiaries, hospitals have diversified into many new types of business including physician office buildings, joint ventures with physicians in surgery centers and HMOs, home medical equipment, diagnostic centers, and in many cases in non-health care related businesses."

For-Profit Sector

The for-profit sector is expanding in the health care industry in two ways. The major impetus comes from health care companies that are organized as for-profit stock corporations. These corporations include such companies as the Hospital Corporation of America (HCA), Humana, American Medical International (AMI), National Medical Enterprise (NME), and Maxicare. A second area of development is the growth of for-profit subsidiaries owned by not-for-profit hospital corporations.

A recent survey (13) found over 28 major investor-owned chains managing acute care hospitals. These chains managed over 134,616 beds within the US in 1984 as compared to 116,908 beds in 1983, a growth of 15.1%. During the past five years this sector of the business has gone through some major redirections. During the 1970s and early 1980s, investor-owned chains concentrated on the acquisition of hospitals as well as managing hospitals under contracts. During 1983 to 1985 some of the major chains acquired larger teaching hospitals. This was a departure from their earlier strategies. HCA acquired Wesley Medical Center in Wichita, KS, as well as Lovelace Clinic Hospital in Albuquerque. Humana Hospital took over the management of the University of Louisville Hospital in Kentucky. AMI purchased St. Joseph's Hospital in Omaha.

During 1984 and 1985 these hospital chains decided to concentrate on the development and acquisition of health care insurance subsidiaries. HCA, Humana, and NME acquired HMOs across the country. Meanwhile, the HMO industry was becoming increasingly competitive. By 1986, most of these companies realized the difficulty of starting HMOs across the country and the need for capital resources. Since then, AMI and NME have changed their strategies and are withdrawing from the HMO business (14). HCA has formed a joint venture with Equitable Insurance Company to develop the health insurance arm. Humana is continuing to develop its insurance subsidiary called Humana Care Plus which currently has over 600,000 members nationally. During the past year, Humana has withdrawn from 15 markets for the insurance product. These corporations are now diversifying and expanding into other sectors of the health care industry, including nursing homes, psychiatric hospitals, and home health care.

Paralleling the developments in the for-profit sector, a large number of not-for-profit hospitals have reorganized themselves into not-for-profit holding companies with for-profit subsidiaries. Through these for-profit subsidiaries, hospitals have diversified into many new types of business including physician office buildings, joint ventures with physicians in surgery centers and HMOs, home medical equipment, diagnostic centers, and in many cases in non-health care related businesses.

The development and growth of the segment raises many questions (15): What are the ethical problems raised by physician involvement in for-profit enterprises? What is the impact of such involvement on professional autonomy and power? What is the difference in quality of patient care and cost of treatment between the two sectors? Are there differences in types of patients served by institutions with different types of ownership? What will be the impact on medical education and research of the growth of for-profit enterprises?

These are some of the issues studied by a special task force appointed by the Institute of Medicine (15). A few of the conclusions of the study are:

1. Current evidence shows that investor-owned hospitals are similar in quality to not-for-profit hospitals (15).
2. Studies of hospital costs that control for size show for-profit hospitals to have slightly higher expenses than not-for-profit institutions (15).
3. Studies show that for-profit institutions charge more per stay than not-for-profit institutions, ranging from 8% for cost payors to 24% for charge payors (15).
4. Controlled studies comparing the profitability of for-profit chains and not-for-profit hospitals show that for-profit chains have achieved higher levels of profitability before and after taxes (15).
5. The not-for-profit hospitals provide more uncompensated care than for-profit hospitals (15).

The increased activity by not-for-profit hospitals in for-profit ventures has raised many questions as to the inherent fairness involved. The states of Utah and Pennsylvania and the Office of Management and Budget in Washington are currently studying this issue (16). What activities should be allowed for participation by not-for-profit institutions? Should not-for-profit institu-

tions be allowed to fund for-profit activities of their subsidiaries? During the next few years we will see new rulings on this subject in various state and federal regulatory bodies. A broader question has been raised by many experts as to whether the not-for-profit tax exempt health care industry contributes enough to the community in return to warrant that status. In a recent study, Herzlinger et al (17) concluded:

> Non-profit hospitals receive more social subsidy than for-profits, they do not achieve better social results ... Non-profits, however, do more to maximize the welfare of the physicians who are their main consumers ... For-profit hospitals, in contrast, produce better results for society and require virtually no societal investment to keep them afloat....

Medical Liability

The health care industry is currently going through a medical malpractice crisis. Nationwide, the cost of medical malpractice insurance increased to $2.3 billion in 1985. The malpractice insurance cost increased 46.8% in 1985 when compared to 1984. During the ten-year period from 1974 to 1984, professional liability insurance cost increased 336%. In many of the specialties premium increases of 50% to 100% were common in the past year.

The most common claims deal with surgical cases, followed by claims for improper treatment, and failure to diagnose. The malpractice verdicts in 1975 averaged $200,000. In 1985 the average verdicts exceeded $1 million for the first time. Many of the specialties, including obstetrics/gynecology, orthopaedics, and neurosurgery, have been hard hit. A survey of obstetrics specialists showed that over 73% of practitioners had been sued.

Hospital diversification efforts create new areas in which institutions should expect additional liability. An increasing number of hospitals have been involved in home health care. Since home care for the most part is unsupervised, this leaves institutions vulnerable to lawsuits dealing with improper use of equipment at home.

A second major area of liability threat is rapidly developing technology. Both diagnostic and treatment technologies are becoming highly complex. Most medical equipment now have built-in computers and software. What if the software has a flaw? What if the staff makes computational errors?

Hospital medical malpractice costs have increased from $4.30 per patient day in 1983 to $6.94 per patient day in 1985 (18) for hospitals with over 500 beds. Similar increases are seen in different-sized hospitals. To cope with these increases, hospitals are moving into the medical malpractice insurance business. Many hospital corporations have bought insurance companies. Premier Hospital Alliance, Inc, Westchester, IL, recently purchased an insurance firm to underwrite professional liability coverage for member hospitals, affiliates, and their medical staff (18). Many of the hospitals are responding by developing self-insurance funds and captive offshore insurance companies to hold the line on premium cost increases.

Industry Structure

The health care industry has been experiencing two major structural changes in response to the environmental changes facing the industry: 1) diversification, and 2) industry consolidation. Hospital corporations are redefining their mission as "health care" as opposed to inpatient care. Increasingly, hospitals are developing ambulatory care programs. These activities include the development of ambulatory care clinics, urgent care centers, and ambulatory surgery centers. A recent survey (19) shows that primary care centers operated by hospitals grew 90% during 1984 to 1985. Ambulatory surgery centers grew from 47 to 79 during that period. Primary care centers showed a major growth from 383 centers in 1984 to 729 centers in 1985. Home health care and durable medical equipment dealerships showed major gains. Overall freestanding facilities sponsored by hospital corporations grew from 1,423 units in 1984 to 2,272 units in 1985.

Two major reasons for the growth of ambulatory care freestanding facilities are the growth of HMOs and the need of hospitals to fill beds. Hospitals are considering freestanding ambulatory care centers as a means of penetrating new markets and gaining referrals. Most hospitals do not expect ambulatory care centers to be profitable by themselves, but look at the benefits of increased census generated in the hospital from referrals from the centers. The second major reason for the growth of freestanding ambulatory care centers is the growth of HMOs. A successful HMO needs to be geographically accessible to the population. Freestanding centers are a means of providing accessible primary care services.

"Solo practices, as we see them today, will continue to decline and will account for a continually smaller percentage of the total physician market.... Physicians' incomes will grow at a decreasing rate and in many specialties will actually decline."

A second area of diversification for hospitals has been home health care programs (20). These include such activities as home care personnel services (including nursing, social work, speech therapy, and physical therapy), home medical equipment and supplies, home antibiotic therapy, home enteral and parenteral feeding programs, and home physician visits. Another area of diversification has been the development of substance abuse and chemical dependency programs by hospital corporations. As of 1985, over 155 centers were being operated by hospitals (19). Hospital corporations are also becoming involved in long-term care. An increasing number of hospitals are operating nursing homes (21). As of 1985, 329 nursing homes were being operated by hospital corporations across the country.

Hospitals are also participating in the development and ownership of alternative delivery systems. Many of these developments are jointly ventured with physicians. Nationally, hospital chains have joint ventured with major insurance companies to develop HMO/PPO companies. HCA has joint ventured with

Equitable Insurance Company to form EquiCor Insurance Company. EquiCor will concentrate on the marketing of health insurance and other group insurance products to the industry. AETNA has similarly joint ventured with Voluntary Hospitals of America, which has now over 600 hospital members.

The other major trend is the consolidation within the industry. Increasingly, hospitals are joining together to form stronger economic entities. In Detroit, Cottage Hospital, Kingswood Hospital, and Health Alliance Plan joined the Henry Ford Health Care Corporation as subsidiaries. In Chicago, the Lutheran Hospital system and the Evangelical Hospital system have agreed to merge into one system. In Minneapolis, Health Central system and Health One system have agreed to merge to form a new system. This consolidation in the industry is occurring at the local and regional market level. A recent survey (22) found over 260 hospital corporations with multiple hospitals under their management. HCA is the largest multifacility system and operates 460 hospitals worldwide with over 68,248 beds with an annual revenue of over $4.2 billion (22). Kaiser Permanente Medical Care Programs is the second largest health corporation with over $4 billion in revenue. The size of the multiunit companies drops rapidly. Only the top eight corporations have revenues near $1 billion (22). Both industry consolidation and diversification will continue and gain further momentum in the coming years.

Prospects For The Future

What does the future hold for the health care delivery system? Five key developments are predicted during the next decade.

Consolidation in the industry

The next few years will bring consolidation in the health care industry. Hospitals will form regional hospital corporations through horizontal integration with other hospitals within and close to their geographical service area. During the past five years the industry has seen an increasing pace of consolidation and jockeying in the industry. Many of the past mergers have changed little in the way the hospitals had been operating prior to the merger. During the next decade the new hospital corporations will be paying increased attention to evaluating and realigning the product lines of subsidiary hospitals.

Hospital corporations will continue to grow through vertical integration. Their product lines will encompass nursing homes, home health care, psychiatric care, and rehabilitation centers. Hospital corporations will increasingly participate in health insurance joint ventures.

Larger health care corporations have the advantage of economies of scale and managerial talent. Furthermore, their ability to raise capital and manage it will allow these corporations to grow in a competitive environment.

Changing physician practice patterns

The growth of physician supply and the high cost of opening a new physician practice will change the way medicine is practiced in the next decade. Physicians will form group practices within their specialty and/or multispecialties. The evolution of physician groups will follow the pattern of larger law firms and accounting firms. In the earlier stages the groups will give new physicians an equal partner status either immediately or within two years of joining the group. As the groups become more established and develop a reputation, new entrants will be hired on salary and may have to work many years before being voted in as partners. Many physicians will join hospitals and HMOs as salaried physicians. Solo practices, as we see them today, will continue to decline and will account for a continually smaller percentage of the total physician market. Finally, with the surplus of physicians projected in most specialties, the average physician's work load will continue to decline. Physicians' incomes will grow at a decreasing rate and in many specialties will actually decline.

"During the next decade the hospital industry will complete its transition from a production-oriented industry where decisions were made for the convenience of the provider to a consumer industry where decisions are made with explicit considerations of the needs and wants of the customer."

Restructuring in health insurance industry

The health care insurance industry will change from a predominantly indemnity insurance to an industry with three major lines of business which will consist of traditional indemnity insurance, preferred provider arrangements, and HMOs. Each of these markets will account for approximately one-third of the total insurance market.

Eventually, Medicare will shift to a capitation payment system in place of the current DRG system. States will also mandate prepaid programs for the Medicaid population. The health care system will evolve into a multitiered system with differing amenities and choice of providers linked to different levels of premium payments.

Increasing consumer orientation

The competitive marketplace will force the hospitals to pay attention to consumer needs. Hospitals will pay increasing attention to their program offerings and will design them to be more attractive to consumers. The emphasis on market research and understanding the needs of the different market segments will be increasingly important. Hospitals will increase their emphasis in marketing, advertising, and patient relations. Guest relations training programs and patient satisfaction programs will become a standard part of hospital operations. During the next decade the hospital industry will complete its transition from a production-oriented industry where decisions were made for the convenience of the provider to a consumer industry where decisions are made with explicit considerations of the needs and wants of the customer.

Increasing attention to costs

As the hospital industry grows into regional corporations, more attention will be paid to market share by individual companies. Buyers of health care have become increasingly knowledgeable in purchasing health care. Competition for business and market share will continue to grow among health care providers. Hospitals that keep a low cost of delivering health care services while providing acceptable health care will gain market share. Hospitals will have to pay more attention to the production side of the business and develop strategies to decrease the cost of delivering health care services. Cost accounting information systems that identify individual product costs will become more common in the industry. Every industry that has faced past competition has had to develop strategies for cutting costs to remain a successful competitor in the marketplace. One only need look at the developments in the airline industry. The hospital industry will be no exception to this phenomenon of cost competition.

Conclusion

The health care delivery system will evolve during the next decade from a cottage industry to regional firms with diversified product lines and multiple hospitals. These regional firms will face an increasingly competitive marketplace, and their success will depend on being cost-competitive and responsive to the needs of the consumer.

References

1. Sherlock DB. The emerging buyers market: The traditional health services market. New York: Solomon Brothers, Inc, 1985:5-6.

2. Steinwald B, Sloan F. Regulatory approaches to hospital cost containment: A synthesis of the empirical evidence. In: Olsin M, ed. A new approach to the economics of health care. Washington, DC: American Enterprise Institute, 1981:274-308.

3. Medical benefits: The medical economic digest. Charlottesville: Kelly Communications, July 15, 1986:4-5.

4. McLaughlin N. HMOs' dramatic rate of growth to shift to frost belt, rural areas. Modern Health Care, January 16, 1987:37-9.

5. Environmental assessment, moving forward: An integration of interests. Minneapolis: Health Central, 1985:24.

6. Grahm J. Wall Street analyst predicts 16% of nations beds will shut by 1990. Modern Health Care, August 19, 1986:90.

7. Kittsell A. Employers turn to managed care, utilization review to control costs. Modern Health Care, May 9, 1986:96.

8. Looking ahead to 1987. Modern Health Care, January 2, 1987:36-44.

9. OMB pushes capitation for Medicare and Medicaid recipients. Hospitals, December 20, 1986:14.

10. Starr P. The social transformation of American medicine. New York: Basic Books, Inc, 1982.

11. Graduate Medical Education National Advisory Committee (GMENAC) report. Department of Health and Human Services, Washington, DC, Government Printing Office, 1980.

12. Hospital dilemma: Fewer nurses with more opportunities. Hospitals, December 20, 1986:23.

13. Johnson DE. Investor-owned chains continue expansion, 1985 survey shows. Modern Health Care, June 7, 1985;15:75-88.

14. McLaughlin N. Experts say it's too early to predict fate of chain-insurer managed care. Modern Health Care, January 16, 1987:40-1.

15. Gray BH, ed. For profit enterprises in health care. Washington, DC: National Academy Press, 1986:92,116,138.

16. Tax status of nonprofit ventures challenged. Hospitals, January 5, 1987:46-7.

17. Herzlinger RE, Krasker WS. Who profits from nonprofits. Harvard Business Review, January/February, 1987:65:93-106.

18. Five future areas of liability risks haunt providers. Hospitals, November 20, 1986:48-53.

19. Anderson HJ. Ambulatory care centers offer broader range of health services. Modern Health Care, June 6, 1986:142-52.

20. Anderson HJ. Home care providers business expanded rapidly during 1985. Modern Health Care, June 6, 1986:168-9.

21. Wallace C. Chains plan growth in response to rising demands for services (nursing homes). Modern Health Care, June 6, 1986:116-30.

22. Johnson DE. Multi unit health care providers continued to diversify in 1985. Modern Health Care, June 6, 1986:50,68.