

Managed care and Nuclear Medicine in the USA

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INTRODUCTION

Prior to Managed Care (MC) when a patient comes down with a medical complaint and seeks help, he/she would consult a family physician or specialist. Following this medical consultation, the physician acting solely, advises and/or dispenses diagnostic tests, refers or treats the patient. The treatment may entail hospitalization. During this interaction a bond develops between patient and physician (Fig. 1). With the advent of MC, this patient-physician bond is drastically altered. MC has cut deeply into the very core of this bondship. For instance, the decision for the form of management and therapy that the patient receives no longer solely rests in the hands of the physician (Fig. 2). MC in the name of cost containment has placed a wedge into this relationship between patient and physician and it now has assumed some central role that is affecting the overall course of patient care.

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MANAGED CARE

Managed care is defined as any health care system that seeks to control costs by using a select group of providers and controlling health care utilization of beneficiaries. MC is about control, less about care and least about caring. It is about control of what is spent on health care; by closely monitoring how physicians treat patients, by limiting the number of referrals, by requiring preauthorization for hospital care and other services, and the assigning of a gatekeeper (an MD or a nurse) who basically does

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telephonic triage. Nuclear medicine (NM) as a diagnostic discipline in an MC environment is treated as a specialty. As such, it does not initiate services but continues to be on the receiving end of referrals. Therefore, for NM to continue a role in this MC scenario, its services must not only remain pivotal in the diagnosis of disease or conditions but must also be cost effective.

THE EVOLUTION OF MC

The concept of MC is by no means new. Some early prototypes in the early sixties and which are still in existence include HIP and The Kaiser Permanente Group. These prototypes would have cornered a large market share had they pitched the concept to the FORTUNE 500 Companies instead of the public. The rapid acceptance of MC came about because of spiraling healthcare cost. For instance, a look at the health benefits cumulative growth in real compensation per worker in the U.S. has gone up a staggering 451.5% from 1965 to 1990, whereas the pension and profit sharing benefits for the same period had risen 76.3% and the wages and salaries 6.9% (Fig. 3).

A look at the business health care spending as a percent of after-tax profits also shows that it has gone up from 20% in 1965 to 85.9% in 1985 and to 110% in 1995 and is projected to reach 138% by the year 2000. The total health care spending as a percent of GDP (previously referred to as GNP) was negligible in 1965 but went up by 7% in 1975, jumped by 10% in 1985, then vaulted upwards by 16% in 1995 and is projected to reach 18.2% in 1997 if no control measures are taken. 18.2% of 6,739 billion dollars (1995 U.S. GDP) is indeed a whopping number (Fig. 4). Both figures are from HEALTHCARE FINANCING REVIEW, 1993. Healthcare cost, however, did not actually accelerate until after 1965, the year when Medicare program was enacted by U.S. Congress under the Johnson administration.

In order to rein in the cost of health care benefits for their employees, some FORTUNE 500 companies like

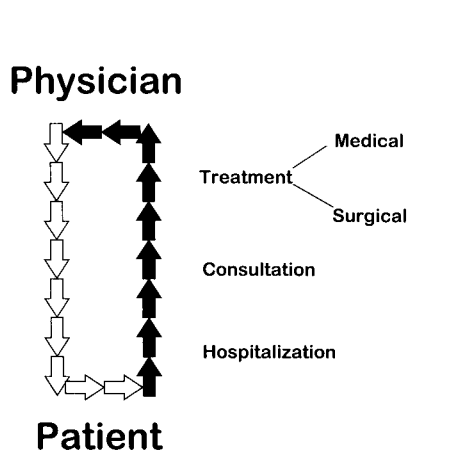


Fig. 1 Patient-physician interaction before MC.

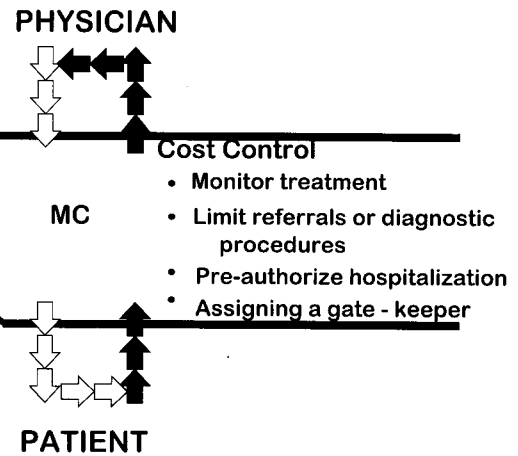


Fig. 2 Patient-physician interaction in an MC environment.

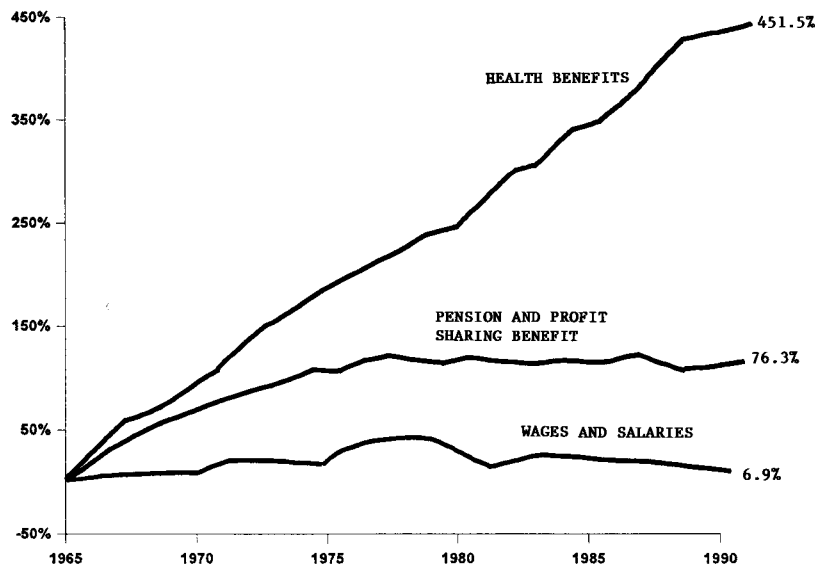


Fig. 3 Cumulative growth in real compensation per worker as it relates to health benefits, pension and profit sharing benefit and wages and salaries. (Source: Health Care Financing Review, 1993)

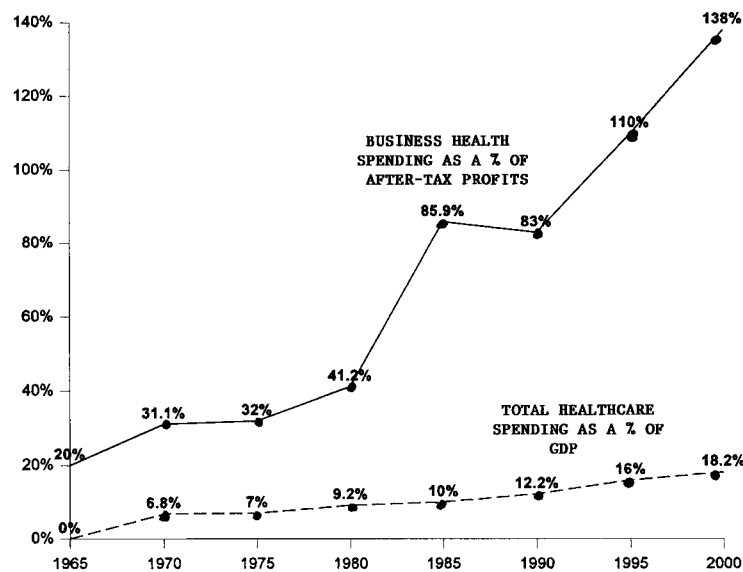


Fig. 4 Business healthcare expenditures as a % of after-tax profits and total healthcare expenditure as a % of GDP. (Source: Health Care Financing Review, 1993)

GE, GM, ALCOA, Mobil, Allied Chemical, Pillsbury etc. have begun contracting specified health care services with individual groups of providers for predetermined budgetable dollars. Later to the chagrin of physicians and other healthcare professionals alike, this approach made in the name of cost containment took root and spread wildly. Managed care organizations (MCOs) in various types of permutation sprouted nationally. Popular permutations include HMO, PPO, IPA, POS etc. Physicians, hospital administrators and academic centers who have been mostly ill-prepared, are now forced to react to these changes.

COST OF HEALTHCARE IN AN MC SETTING

The cost of healthcare is dependent on four variables, namely the number of enrollees or lives covered, the benefits or coverage to be rendered, the rate and level of utilization of these benefits/coverage and the unit cost of these benefits or services. The cost of health care is, therefore, equal to the number of enrollees, times the benefits, times the rate of utilization, times the unit cost. Optimally to maximize profits, MCOs would like to have the largest enrollee base attainable, preferably made up of individuals between ages 21 to 45, keep the utilization volume to a minimum, limit the benefits to a narrow spectrum of services and contract for the lowest unit cost possible. Utilization and unit cost are considered risks and the companies would preferably like to pass these on to providers. These have given rise to capitation contracts. If contracts for benefits befitting a Martian could be written or a coverage written limited only to the right big toe, one can be assured ways will be found for it to be written.

THE HIGH COST OF HEALTHCARE: CAUSES

- (mis)allocation of medical resources
- consumers' rising expectations
- present TORT system
- malpractice insurance rates
- physician and health professional-related misuse and abuse of resources
- excess hospital capacity and specialists
- inadequate and poor legislations (second opinion disaster)
- part of overall inflation
- increased longevity and aging population
- medical and technological advances

MEDICAL RESOURCES AND CONSUMER EXPECTATIONS:

Due to space constraint, only a few of above causes are discussed briefly. Certain misallocation of resources may best be exemplified by some Medicare expenditures. For instance, Medicare spends 6.2 times more dollars on a

person who dies in a hospital setting than the one who walks home. Of the 5.9% Medicare population that dies that year, the program spends 27.9% of its annual resources. For the person who dies, 30% of the year's medical expenses occurs in the last 30 days of life, 46% in the last 60 days and 77% in the last 180 days.

(?Mis)allocation of resources is also seen in certain conditions of early postuterine life. Preemies weighing less than two pounds, often born of addict mothers, or neonates with multiple neurological defects or other equally untreatable defects, account for about 10–15% of medical expenditures. Clearly a huge sum of money is used in the early and late stages of life because of the rendering of extreme but often futile measures in the last days of life. In attempting to prolong life, physicians sometimes prolong the agony of dying. According to Krieger "increasingly resources go toward what often amounts to the physical and emotional abuse of the terminally ill and that crowds out expenditures for service that will actually benefit (other) patients." Germane to the preceding, consumers' rising demands and expectations must also be trimmed and tempered with reality. Consumers must learn to accept that life is finite and "even the best" or "only the latest" in advances in medicine have limits. "Miracles" cannot happen forever.

TORT SYSTEM, NEW "TWIST" IN LITIGATIONS AND INSURANCE RATES:

Malpractice insurance premium can go down only if the present TORT system is repealed and replaced with a new system. The new system must limit the size of the dollar awards and make lawyer's take non-contingent upon the dollar size awarded.

Although grounds for malpractice litigations are not wanting, lawyers nevertheless have yet come up with a new twist for malpractice suits. The failure of health providers to observe the so-called "right to die" request of families, i.e. the patient was not allowed to die, is instead saved, but now continues to suffer from his chronic illness or complications from antecedent lifesaving measures. As a result family members now also suffer because they have to cope with the real and emotional cost of care. There are many such cases that are currently in litigation.

GOLDEN RULES AND GOLD RULES

There are golden rules, but in MC environment gold rules supreme. "He who pays the piper calls the tune" and so it is with MC. As MCOs steadily gain market share their tune-calling gets louder. Nationwide, MC has a penetration of 71%. It is strongest in the West Coast which is ground zero, where it has market share of 85%. It is gaining steadily in the Northeast where its market share is 65%. New York City has a penetration of about 20–25%. An HMO, a common MCO prototype, contracts typically

either by fee for service or capitation with an IPA, with a medical group or less preferably with individual physicians and separately with hospitals. The larger the HMO, usually the less flexible it is in negotiations. The consolidation of the industry thru mergers, therefore, augers negatively for providers. Mergers result in less competition and the larger entities attain a stronger base to dictate the market. Since they do hold the gold, dictate they do.

Speaking of gold, the President and CEO of US Healthcare stands to make close to a billion dollars after AETNA takes over his company. The President and CEO of a local HMO in Denver was compensated more than \$20 million in 1995. Most CEOs are compensated in the seven figures not including company stock options and perks. Nobody begrudges anyone of receiving these amounts of compensation for the toils of his/her efforts. But the name of the game providers are told to play is cost containment. These types of remunerations do not quite jibe with cost containment. Incidentally, where is all this money coming from and who will eventually pay?

IMPACT OF MC IN NUCLEAR MEDICINE PRACTICE

A. ENDLESS TRAIL OF PAPER "HORROR"

1. Registration, Billing & Reimbursement

To survive in the MC environment, not only must front end staff deal with myriads of MCOs but also with various plans within the same MCO. Parenthetically, it has been said that "if one had seen one MCO plan, one had seen only one MCO plan." No two plans are identical.

To obtain a successful MC registration, staff must keep current a list of all MCOs participated in and surf thru a web of data requirements, forms and coverage/billing and payment needs of each MCO. Staff must explain patient responsibilities both during the appointment scheduling and at the time of service. Remember, that the patients themselves may for the first time be encountering this novel MC experience and may find out to their dismay what their plan does or does not cover.

To ensure maximum reimbursement, staff must adhere to sets of complex rules governing referrals, eligibility, and precertification. A specialist referral for instance can only be initiated by the primary care physician (PCP) who must fill-out properly a referral form, hand it to the patient with appropriate instructions and track it down to its destination. The checking of eligibility for specific services frequently requires several levels of verification. For some special NM services, the patient must secure a pre-approval. Often the patients are unable to do this and the burden falls on staff. This precertification may entail the collation of clinical data, which can take time to complete.

The consequences of inaccurate/incomplete front end information are delay, reduction, or denial of payment. A

missing preauthorization number, eligibility confirmation or referring physician's name automatically results in need to rebill, or do an account follow-up. Because each MCO can change its rules of operation with short notice, it is critical that staff remains apprised of any change. More importantly, staff must also ensure that full contracted payment is actually received for all authorized services rendered. MC also increases the demands on back end office staff. Depending on the type of reimbursement methodology, namely whether it is a fee schedule, selective specialty capitation, full risk capitation or case rates, the office functions and workload are impacted differently but accordingly.

MCOs to relieve themselves of the paper pain that they helped create have resorted to the use of expensive electronic managed care systems. MCOs can easily absorb the cost related to these systems, but it is not necessarily that easy for providers.

2. Application forms

The paper pain starts with MCO application forms. If one is applying to a dozen MCOs, be prepared to fill out twelve different forms. There is no one standard form. Even with an experienced staff and with provider biodata already collected, it still takes 1 to 1.5 hours to complete one form. This process is repeated for each member provider in a given group.

3. Contracts

Contract negotiation is yet another story. Contract negotiation is a slow, long drawn out process. Despite strong forewarnings that reading and understanding of an agreed contract with each MCO are essential, providers still hardly take heed, 1) because the sheer number and length of individual contracts are just overwhelming and 2) contracts are purposely written in such legalese, to make reading and interpretation not easy. From the outset, the MCOs and their battery of lawyers have the edge on contracts. Contracts are the tools of their trade, and they deal with these on a daily basis just as providers generally deal with the stethoscope.

All the preceding i.e. registration, billing, re-billing, applications and contract negotiations involve time-staff time, and the latter translates easily to additional cost.

B. NM REFERRALS

With incentives to cut down on diagnostic procedures NM studies are destined to drop. Nationally this trend has not as yet happened. Actually in our department there has been a 4.7% growth in the workload for the first 8 months of 1996 when compared to 1995. Imaging studies on in-patients used to account for 75-80% of our caseload. Currently it makes up only 15-25% and the rest are studies on out-patients. MCOs are said to shy away from contracting with free-standing cardiology centers that do

cardiac nuclear studies because of the issue of possible "self-referral." Potentially this may result in the shift back of cardiac nuclear procedures to NM facilities. If this shift back occurs, this could only help boost the caseload of full service NM facilities.

C. BUDGET

Direct effects closer to home are now being felt. For instance, some high-priced radiopharmaceuticals despite their possible diagnostic or therapeutic potentials have been eliminated from our departmental budget. There is also an enhanced conscious effort to refurbish rather than buy new equipment where this is feasible. The potential of curtailing the hours of service looms large because of budget cuts.

D. THE FUTURE OF MEDICAL RESEARCH

The future of research and advancement of medicine as a whole will suffer. NM will suffer concurrently. When government funds dry up, as they will and the private funds from commercial companies are no longer available because prospect for marketing new drugs or technology is dim, then medicine will be at a standstill. It is unlikely that funds for research and development in medicine are a crying priority in any MCO budget. To date, this writer is unaware of any funds trickling back to medical research from any publicly held MCO.

OTHER INSTITUTIONAL IMPACT

A. RELATIONSHIP OF ACADEMIC CENTERS AND PCPs

Prior to MC, PCPs have been treated as second class citizens by academic centers. The same physicians, however, are now actively pursued by academic centers sometimes indirectly thru mergers, acquisitions or direct affiliations with community hospitals, where most PCPs practice. Overnight, community hospitals and PCPs have become a prime commodity. The reason is simple; both hospitals and PCPs control a large flow of patients.

B. MERGERS OF ACADEMIC CENTERS/HOSPITALS

Erstwhile institutional competitors and protagonists have also merged. In our own New York City backyard, NYU Medical School/Hospital Center recently merged with Mt. Sinai School of Medicine/Hospital into a new \$25 billion entity. Besides the projected minuscule paper savings of \$50 million dollars annually in the governance of this new entity, the new school will be able to consolidate grants and funds to pursue biomedical research and at the same time assure itself of maintaining the highest

standards of academic excellence. The merged institution has now an option to create its own version of HMO such as an MSO. The mergers have not been limited to medical schools. Two weeks after the NYU-Mt. Sinai deal was announced, again in our own backyard, Beth Israel Hospital in Manhattan and Long Island Jewish Hospital in Long Island, despite their distance in geography, announced a merger.

C. OUTPATIENT CENTERS

While the number of hospital beds is systematically being closed to cure overcapacity, competing hospitals on the other hand, in an almost synchronous but frenetic pace, are pouring hard-earned resources into the opening of outpatient facilities. These ventures are to gain or preserve market share in the geographical areas they serve. Whether this type of investment attains its intended goal, only time will tell.

STRENGTH OF NM TO COMPETE IN AN MC ENVIRONMENT

For every one hundred dollars spent by Medicare on healthcare, 11% is spent on diagnostic imaging. Of the 11% spent, only 1% is spent on NM procedures and yet NM studies make up about 3% of all imaging procedures. This leaves a window of opportunity for NM to increase its market share in the imaging field. This is achievable by proving that NM procedures are accurate, inexpensive and cost effective. Supporting outcome data in new areas, however, must be generated.

While there is currently an oversupply of NM physicians this is only half as bad as the current oversupply of imaging specialists in other fields. The projection calls for an increase in the demand for NM services and, therefore, of physicians in less than five years. The entry of the greatest number of board certified NM physicians are projected to be retiring in about five years. The anticipated availability of tissue or tumor specific radiopharmaceuticals into NM clinical practice will certainly impact favorably on cost-effectiveness issue as well as widening the diagnostic applications of the specialty. It, therefore, behooves NM physicians to prevail over manufacturers to price these radiopharmaceuticals reasonably so that they do not become "boutique" or "high society" tracers.

The possibility of re-defining the current concept and structure of gamma imaging equipment by some commercial company also bode well for the discipline. Commercial vendors are not known to undertake such a mammoth deviation on something so entrenched and basic as the gamma camera unless they feel confident on the merits of such an overhaul, or be rewarded appropriately with a specific market share for their investments, and at the same time maintain faith in the viability of NM itself.

CONCLUSION

Clearly the runaway cost of healthcare benefits must be reined in. Is MC the solution? Whether MC is part of the solution, the solution or not the solution seems at the moment academic, since at present it appears to be the only game in town.

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