COST CONTAINMENT STRATEGIES FOR STATE PURCHASERS

Governor's Cabinet Council on

Health Care Cost Containment

October 1985

RICHARD D. LAMM
GOVERNOR

State of Colorado

Governor's Cabinet Council on Health Care Cost Containment

1575 SHERMAN STREET
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GEORGE S. GOLDSTEIN, Ph.D.
CHAIRMAN

October 11, 1985

To The Reader:

The Governor's Cabinet Council on Health Care Cost Containment was formed in 1984. Governor Lamm created the Cabinet Council to foster and coordinate efforts by State agencies to contain costs of health services purchased by agencies with public funds. These costs had been growing at a rate of 20% per year, far outstripping inflation driven increases.

One project undertaken by the Cabinet Council was to explore strategies appropriate for State purchase to contain health care costs.

I am pleased to transmit this Comprehensive Report on health care cost containment strategies for State Purchasers commissioned by the Cabinet Council. This report catalogues the array of market-oriented, non-regulatory activities that health care purchasers can undertake to control expenditures.

This document analyzes the cost effectiveness, strengths and weaknesses of these strategies. The report will be a valuable resource to public agencies attempting to become more prudent buyers in the new, more competitive health care market.

I hope both public and private sector health care purchasers will find this comprehensive document useful as they face the dilemma of escalating health care costs.

Sincerely,

George S. Goldstein, Ph.D.
Chairman

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Prepared for the

GOVERNOR'S CABINET COUNCIL ON HEALTH CARE COST CONTAINMENT

by Patricia A. Butler

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TABLE OF CONTENTS

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I. INTRODUCTION

Like the private sector, state purchasers of health care for employees, injured workers, and the poor are experiencing increasing pressures of health care cost inflation. A National Governors' Association survey of state employee benefits costs showed increases averaging 21% per year from 1980 to 1983, while the number of employees, dependents, and retirees increased less than 2%.(78) Colorado's experience is similar. Costs of health insurance premiums for employees of state agencies and higher education boards increased an average of 20% per year from 1981 to 1984. Although the rate of health care cost inflation has declined recently, it still exceeds that of general inflation. It is to curb this unacceptably high rate of increase that states are exploring various strategies for containing costs.

In 1983 Governor Lamm's Task Force on Health Care Cost Containment prepared a report on the extent of the cost inflation problem in Colorado compared to the national experience. The Task Force outlined a variety of solutions for both the private and public sectors, including regulatory and market strategies, to stem what it estimated to be a serious and steady increase in both the absolute and the relative rate of health care cost escalation.

As a sequel to that monograph, this report is designed to inform state agencies that purchase health care about the array of cost containment activities and their strengths and weaknesses. With this common background, agencies can then examine new options for containing costs in the health care they purchase, share information, and consider cooperative cost control programs. State agencies differ in the type of care purchased and in the populations for whom they buy health care (health insurance and workers' compensation benefits for employees or health care for low income populations). Although some strategies will therefore be more appropriate for some agencies than others, most have potential application for each agency, and all state purchasers can benefit from active interchange of health care cost containment ideas and experience.

The cost containment strategies outlined in this report are essentially non-regulatory and are designed to bring more marketplace forces into health care purchasing decisions. The concept behind the market-oriented approach is to provide incentives for hospitals and physicians to compete for patients based on price and other explicit differences. In order for such a system to operate, purchasers and consumers must know which providers are efficient and must have incentives to choose them.

Because activities of other states as health care purchasers are most directly relevant to Colorado's state agencies, this report draws from other states' experience whenever possible. But it also refers to the experience of the private firms that have undertaken cost containment activities over the last decade. The private and public sectors have much to learn from each other on issues of health care cost containment. It is hoped that the State of Colorado can act as a model for market-oriented approaches and that experience with and evaluation of public sector strategies will be shared with the private sector.

II. COST EFFECTIVENESS OF COST CONTAINMENT

Although still running at about one and one-half times the general inflation rate, health care cost inflation has slowed to 6.1% in 1984. This is attributed to many factors: the reduction in general inflation, declining hospital admissions and lengths of stay (which may relate partially to Medicare's prospective payment system and partially to increased enrollment in HMO's), increased cost sharing required of insured employees, a variety of utilization controls and benefit limits recently imposed by insurers and employers, and the general "sentinel effect" upon providers of the greater scrutiny of their practice patterns by insurers, employers, and consumers.(28) Cost inflation pressures will continue, however, due to the aging of the population, increased technology and intensity of care, and excess capacity of hospitals and physicians. Health care cost containment must therefore remain high on the public agenda.

With so many changes in the financing and delivery of health care, it is impossible to quantify the effect upon the costs of care of a single or a set of closely related cost containment activities. Relatively few purchasers have measured the effectiveness of their programs.(97) Data in Table 1 from the Health Research Institute's 1981 and 1983 biennial surveys of insurance in large private firms show employers' estimates of savings from different strategies. But it is likely that some strategies are complimentary (e.g., pre-admission and concurrent review) while others may work against one another (e.g., preventive care and cost sharing), or that some will be duplicative (second surgical opinions and pre-admission review). Therefore, the synergistic effect of several strategies may be more or less than the sum of cost savings of each.

The major question asked about cost containment strategies is how much each is likely to save, compared to its cost to administer. Cost savings can be measured in several ways. Cost-effectiveness analysis measures the benefits of a program in health terms such as lower paid claims, life-years saved, or extent to which a health outcome (lower blood pressure) is achieved in relation to total program costs. A return-on-investment analysis compares direct and indirect program costs to its benefits (quantifiable measures such as medical claims, disability payments, increased productivity.) Cost-benefit analysis is the most complicated approach, examining total direct and indirect program costs and direct and indirect benefits (requiring that a dollar value be placed on health outcomes.)(95)

TABLE 1

ESTIMATED SAVINGS FROM INDIVIDUAL HEALTH CARE COST CONTAINMENT EFFORTS

	1981	1983
Noncovered Charges	11.8%	10.9%
Alternative Delivery Systems (HMO's, PPO's)	8.5	2.4
Coordination of Benefits	7.3	9.7
Alternative Funding Methods (self-insurance)	6.7	8.0
Deductible	5.8	6.2
Coinsurance	5.6	6.4
Concurrent Hospital Review	4.1	6.1
Reasonable and Customary Fee Cutback	3.9	3.1
Ineligible persons	3.7	5.5
Fee Schedules	3.4	3.7
Ambulatory Surgery	1.0	3.1
Subrogation	1.9	2.3
Retrospective Hospital Review	1.5	1.2
Hospice Care	1.1	2.0
Pre-Admission Review	1.0	3.6
Pre-Admission Testing	0.8	1.4
Second Opinions	0.7	2.8

Source: Health Research Institute,
Second biennial Survey, 1981
and Third Biennial Survey, 1983

The Survey is distributed to the nation's 1500 largest firms, of which 550 responded in 1981 and 610 in 1983. The average firm has 23,000 employees, for which it pays an average of $1366 per employee per year in health care costs (8.6% of its payroll). HRI staff believe that the estimates of savings from the cost containment options are rough and many are probably derived from changes from the baseline year before each particular cost containment strategy was adopted.

For several reasons, savings from cost containment activities are very difficult to calculate. First, the definition of a cost-benefit ratio differs depending upon whether it is observed from the consumer or employer perspective. Even from the employer's viewpoint (the principal perspective of this report), costs and benefits are difficult to determine. To be accurate, a cost savings analysis would require a controlled study with similar populations subject to and not subject to each cost containment strategy and combinations thereof. Due to time and expense, such studies have rarely been done on these issues.

Another difficulty in estimating cost savings is defining "savings." For instance, retrospectively denying claims or deeming another insurer liable for them will save costs to the employer, but this approach merely shifts the costs to others rather than saving systemwide costs. If savings are defined to include foregone costs, such as surgeries not performed because a second opinion opposed them or outpatient procedures performed in lieu of inpatient ones, savings are fairly easily calculated (although even estimating the costs of such foregone hospital days is difficult since actual per diem hospital costs are not readily available and would vary as lengths of stay decrease(4)). In most instances, however, foregone costs are difficult to determine, since they involve assumed declines in length of stay, fewer disability days, or utilization patterns changing from one time period to another. There are simply too many intervening variables to attribute such changes to cost containment strategies alone. Furthermore, indirect benefits, such as reduced absenteeism and reduced costs of family time to care for the ill individual, are difficult to calculate. A final problem with estimating savings is the difficulty in quantifying the intangible and very long-term benefits of improved overall employee health and morale.

In view of the difficulty of calculating cost effectiveness, a general indicator of relative cost savings of each strategy would be the rate discount that a carrier is willing to offer for implementing each one. Kentucky's state employee plan has negotiated such discounts after initiating many of these cost containment activities. (46)

Data on cost savings from the various strategies are provided in this report when available but should be taken as very rough estimates. Furthermore, the extent of savings will depend on the costliness, efficiency, and potential for change of a purchaser's current program. Dramatic first year savings may not represent the rate of long-term cost reduction. And one purchaser may experience considerable savings by adopting a single new approach, while another purchaser may receive minimal cost reductions by adding that approach to an arsenal of others. To monitor cost effectiveness, purchasers should collect reliable baseline data on the demographics and health care use in a purchaser's population, and in this respect the Colorado Health Data Commission should be very helpful.

III. COST CONTAINMENT STRATEGIES AND EMPLOYEE AND PROVIDER RELATIONS

While decisions to adopt cost control strategies should be made based on the purchaser's best estimates of cost effectiveness, other factors enter into the decision to undertake cost containment, such as institutional ethos, employee and union relations, rapport with health care providers, and political and community forces.

Even the private sector with its reputation for concern about "the bottom line" is also conscious of employee good will and its community image and may therefore not consider strategies that appear to reduce benefits or require employees to use a limited set of physicians. The desire to maintain good rapport with health care providers throughout the community may also limit a purchaser's willingness to contract with selected providers or to impose utilization review mechanisms upon provider practices. Health care providers, particularly physicians, have traditionally opposed any oversight of their practice patterns, but this resistance has softened in recent years due to experience with government mandated peer review and to the current oversupply of physicians.

A 1984 survey by Equitable Assurance Society showed great variety in physicians' acceptance of cost containment activities. They are more accepting when they believe a strategy is effective. For instance, more noninstitutional care is considered very acceptable and effective, but pre-admission certification is considered somewhat effective and generally unacceptable. Furthermore, physicians generally favor activities directed to patients, such as more patient cost sharing or incentives for healthy living, over those directed at physician behavior, such as utilization control, fee limits, or organizational structures.(85)

Since employee and provider cooperation is critical to the success of most of the cost containment strategies described in this report, it is important for purchasers to plan and design cost containment activities in conjunction with representatives of both the consumer and health care provider communities. Such cooperation will lead to better understanding of the need for cost containment activities and more success in their ultimate operations. It may also result in programs that meet needs of the purchaser, consumer, and provider, and are thus better accepted by all parties.

Guaranteed cost savings should not be the sole reason for adopting the approaches discussed in this report. While saving money and reducing systemwide health care costs is an important objective, improved employee health and elimination of wasteful practices should be equally important. Fortunately, all these objectives can usually be met by most of the strategies described in this report.

IV. ORGANIZATION OF THIS REPORT

The cost containment approaches in this report are divided into six categories. The first category (Benefits Coverage and Limits) includes the services covered or restricted by a plan and explores cost control incentives for such benefits options. The second category (Utilization Control) includes activities to limit the type or setting of services within a benefit package. The third section (Selecting Cost Effective Providers) describes options under which purchasers can buy care from apparently cost conscious and efficient providers. The next category (Consumer Choice) focuses on strategies to encourage the insured consumers to participate in health care purchasing decisions and make them more cost conscious. The next category of activities (Health Promotion and Education) includes programs to maintain employee health and educate them to use health care wisely. The final section (Health Plan Administration) describes a variety of activities in plan administration, such as self-insurance, bill audits, and coordination of benefits, that can save health care costs without

reducing benefits or use. This outline attempts to distinguish among the activities for cost effective behavior that put major responsibility on providers, consumers, and administrators. However, the distinction among some categories is somewhat arbitrary, and one should be less concerned with how a strategy is classified than its concept, structure, effectiveness, strengths, and weaknesses.

V. BENEFITS COVERAGE AND LIMITATIONS

Deciding which benefits to cover and which to exclude from coverage in a health plan is the simplest means of cost containment. Some options, such as requiring diagnostic tests to be performed before admission, are easy because the evidence clearly indicates cost savings without sacrifice of quality. Other choices, however, such as covering preventive care, hospice, or free standing emergency centers, do not so patently demonstrate cost savings and may therefore not be cost effective. For instance, a literature review of over 100 studies comparing costs and outcomes of inpatient and ambulatory care revealed very few rigorous analyses of cost effectiveness; only four studies showed cost savings from ambulatory care, and two of these produced less favorable clinical results.(4) What follows is an illustrative but incomplete list of benefit options.

A. Pre-Admission Testing and Limits on Admission

Because hospital insurance was traditionally the most generous in benefit coverage, it created incentives for many procedures to be performed inpatient: Often diagnostic tests would not be covered at all if done as outpatient procedures. (And physicians are trained to perform services in an inpatient setting.) But incentives to hospitalize are both costly and risky to health, since hospitalization includes the chance of iatrogenic (medical system-induced) illness. It is estimated that over 50% of inappropriate hospital days are due to tests that could be performed outpatient.(30) Purchasers are attempting by plan design changes to overcome providers' inclination to admit patients before treatment is scheduled to perform such tests. Pre-admission limits include policies that: 1) do not pay for, or pay a limited part of, hospital days before surgery or other treatment is performed; 2) pay for pre-hospital tests on an outpatient basis (often with lower cost sharing or by exempting costs from any outpatient payment limit); and 3) refuse to pay for the hospitalization for such diagnostic tests (although they will pay for the test costs). Some private firms also allow employees administrative leave with pay to take the outpatient tests.

Because they believe it is cost effective, many private employers and states (e.g., Illinois, Kentucky, New York, North Carolina, Oregon, and Utah) have pre-admission test and early admission limits policies. Large employers estimate that pre-admission testing saved 1.4% of claims costs in 1983.(51) Estimates of cost savings from this policy vary from negligible to two and one-half days per admission, with an average of about one-half day.(36, 46)

Less information is available on cost savings from other limits, such as limits on weekend admissions. Colorado's Medicaid program estimates saving $300,000 per year (out of an approximately $300 million budget) from eliminating weekend admissions.

Pre-admission test policies have the advantage of encouraging less costly and more appropriate care and limiting the risks associated with hospitalization; in fact, hospitalization may be entirely avoided if tests reveal no treatment is needed. On the other hand, like other limits, this policy may be resented by providers as an intrusion into their discretion; and physicians may prefer the control over the patient that hospitalization affords.

Issues to consider in deciding whether and how to establish admission limits policies are: whether pre-admission test requirements are necessary (based on analysis of the number of days of admission that occur before treatment begins, numbers of duplicate tests, and number of inpatient pre-treatment tests); how to fashion an early hospital admission limit that does not stifle creative use of hospital facilities; how to assure that pre-admission test results are current; how to inform enrollees and providers about the programs; and whether to eliminate from coverage standard pre-surgery tests of marginal relevance.

With respect to early hospital admission limits, it has been customary to limit weekend admissions, since surgery has generally been performed only on weekdays. But competition in health care has created changes that may allow for weekend surgeries to meet patient convenience, in which case an exclusion for weekend admissions would be unduly restrictive. A preferable policy would be to limit coverage to admissions within 24 hours of the surgery or other treatment.

Tests must generally be performed within a time reasonably proximate to treatment in order to be valid. Therefore, pre-admission benefit limits should include such requirements to assure that test results will be valid and do not need to be duplicated. The policy should require physician certification that they are preparatory to hospitalization, but if hospital admission is not indicated as a result of the tests, the tests should still be paid for.

As benefit limits, these policies are easy and inexpensive to administer, since they merely involve claims payment denials. But to assure that enrollees do not unwittingly pay the costs of procedures not meeting policy limits, enrollee education is vital.

B. Hospice Care

Hospices provide medical and emotional support to the terminally ill. Benefits include physician care, nursing care, social work services, physical and other therapies, counseling, and family support as well as pain killing medication. Hospice care may be provided at home or in special hospital-based units. The concept of hospice is multidisciplinary assistance to the family in the dying process, stressing palliative as opposed to curative or restorative care, and no life extending treatment is provided. Most current hospice patients suffer from some form of cancer.(16, 73)

Since over 3/4 of Medicare payments occur within the last 6 months of life of the nation's elderly, it is assumed that alternative accomodations for care for death, such as hospice, will be a less costly substitute for hospital care.(90) However, since about half the nation's hospice programs are hospital-based, it is not clear that on average they save many dollars. Furthermore, contrary to conventional wisdom, most terminally ill elderly do not use costly, high tech care. Only 5% of Medicare decedents incurred costs over $20,000, likely to be attributable to intense, high technology medicine; an almost equivalent proportion of high cost Medicare beneficiaries do not die.(90) It is not surprising, therefore, that the data on cost savings of hospice are mixed.

Few detailed studies have thus far been conducted on cost savings from hospice. Available data suggest that there are some savings but they vary widely, partly due to the different settings of hospital-based and home-based care. The Congressional Budget Office estimated that the Medicare hospice benefit could save $1100 per patient due to reduced hospitalization. A recent study in Ohio estimates a savings of about $2600 per patient in the last 12 weeks of life, due to fewer hospital days. According to this study, the difference in cost between hospice and non-hospice patients increased as the time period before death shortened.(73) Hospice care itself has been estimated to cost between $1200 and $18,000, depending upon the setting, the length of use, and the care required.(16, 46)

Until recently, hospice services were provided through volunteer agencies rather than as reimburseable care. Hospice benefits are now becoming more available through insurance plans. Medicare began to cover hospice in 1984. Blue Cross plans have experimented with it, found it cost effective, and offer it widely. The state employee benefit plans in Colorado, Florida, and Ohio cover hospice. Few commercial carriers cover hospice, but the number is increasing, so that a small but growing number of private firms offer the benefit. The states of Colorado and Maryland require insurers to offer hospice as an option to group plans.

Hospice has the advantage of offering supportive and high quality care to terminally ill patients and to avoid expensive (if rare) high technology procedures in favor of a more humane and dignified approach to death. On the other hand, knowledge of cost effectiveness is still quite limited. Furthermore, unlike Medicare, most public and private purchasers will probably have a small number of terminally ill enrollees, so cumulative savings may be very small. But as long as the benefit is designed to be a substitute for some hospital care, it will not be costly to the employer and may save some dollars.

In considering whether and how to offer a hospice benefit, a purchaser should analyze the characteristics and needs of its terminally ill enrollees by focused claims analysis. Issues to be addressed include: qualifications of providers (whether to require licensing or accreditation by a national organization); whether to prohibit hospital-based facilities from participating due to cost; how to assure that it is a substitute for hospital and/ or nursing home care; enrollee eligibility criteria (Medicare requires a physician's certification that the patient has only a 6 month life expectancy); whether to limit the amount paid under the benefit; and what eligibility period to use (Medicare covers two 90-day and one 30-day period). Although the benefit may not save many health claim dollars, purchasers may wish to offer it as a humane option for enrollees and families facing death.

C. Home Health Care

It is estimated that between 6% and 12% of hospital patients could be cared for at home during the post-acute recuperative period if supported by home nursing care.(46) Home health care as an insurance benefit usually includes home visits by nurses and nurses' aides, physical, occupational, and speech therapy, prosthetic devices, and medical supplies. Home health care is provided by independent non-profit and for-profit agencies, county health departments, and hospital-based agencies.

Although home health care has been a benefit under Medicare and Medicaid since 1965, it has not been used much in those programs. For the last 10 years, most Blue Cross plans have also offered this service. Arizona, Colorado, Connecticut, and Nevada require health insurance plans to offer home health care as an option for group purchasers, and Maryland and New York require it in policies paying for inpatient care.

Little information is available on the cost savings potential of home health care as a substitute for hospital care. In 1968 Blue Cross of Wisconsin estimated that patients using services of a hospital-based agency incurred less than half the costs of a control group of patients remaining hospitalized. Quality and effectiveness of care were determined to be equal to or better under home care.(96) In order to save money, however, the benefit must be defined as a clear substitute for hospital care, not an additional benefit.

Advantages to covering home health benefits as a hospital substitute are the cost savings and equivalent quality of care. Physicians, however, may be less familiar with the potential of this service than hospital care. Furthermore, inpatient hospital or nursing home convalescence is more convenient for the physician than having the patient at home. The major problem presented by the benefit is its potential to increase costs by being used in addition to, rather than in substitution for, inpatient care.

Issues to consider in determining whether and how to add home health are: designing a benefit that substitutes for hospital care by covering it only in cases where a patient would be hospitalized or would continue a hospitalization; determining which services to include in the benefit and service limits; and educating providers and patients about the existence and value of the benefit.

D. Pre-Natal Care

Working mothers accounted for 30% of births in 1983(128), so maternity care should be of interest to employers, particularly since pre-natal care is uncontrovertably cost effective. A recent literature review concluded that every $1 spent on pre-natal care saves $3.38 in neonatal costs(132) and the Colorado Department of Health has estimated that it saves at least $9 on long-term costs, primarily by averting low birthweight and premature births.(9) For reasons not well understood, low birthweight births are a special problem in Colorado for both low income and higher income women.

Tile VII of the federal Civil Rights Law (42 U.S.C. 2000e-2) prohibits discrimination in employee benefits on the basis of pregnancy for both employees and employees' wives. Thus, health insurance plans that cover outpatient care, such as major medical policies, must include such services for pregnant women. But pregnancy benefits can be subject to the same deductibles and copayments as other outpatient care, which may not provide sufficient incentives for early pre-natal services. Purchasers should provide comprehensive coverage for pre-natal care and encourage its use.

E. Birthing Centers

Delivery may be the single most frequent reason for hospitalization in most insurance plans. Most routine deliveries occur in the hospital, although they can safely be performed in outpatient settings. An interest in making the birthing process more humane has led to development of birthing centers, which offer a more homelike and natural setting for labor and delivery and often allow the mother to return home the day of the delivery. Many centers are staffed primarily with nurse midwives, while others are staffed more traditionally with physicians.

Deliveries in birthing centers can cost between 35% and 50% of inpatient births.(5) About 70% of births are routine and could be appropriate for a birthing center if the mother so chose. The number of birthing centers is increasing rapidly throughout the country. Some are attached to hospitals, while others are free standing but affiliated with hospitals or free standing and independent.

Birthing centers offer the advantages of lower cost in a more comfortable and natural setting and have a record of high quality care.(5) Even for the 15% of birthing center deliveries that require hospital transfer, the centers required to maintain transfer arrangements can protect patients and preserve quality of care. However, many physicians (including the American College of Obstetrics and gynecology) oppose out-of-hospital delivery, including that in birthing centers which may be due to concern over competition (especially from nurse midwives) as much as quality.(5) Furthermore, although few problems of professional liability have occurred in birthing centers, the high cost of malpractice insurance is driving some nurse midwives and birthing centers out of the field.(26) Future developments may change the availability of this delivery option.

Issues to consider in determining whether and how to offer this benefit are whether enrollees would use this option, whether centers are located near enrollees, and what qualifications to impose to assure quality of care (Colorado is in the process of developing birthing center licensing regulations to govern the three free standing birthing centers in the state. Many hospitals have established internal birthing centers; they are considered part of the hospital and not separately licensed.)

F. Preventive Services for Children

Routine preventive health care for children can avert costly illness or disability by providing immunizations, physical examinations, and vision, hearing, and developmental assessments. Immunizations are acknowledged to be very cost effective, saving about $10 for every $1 spent.(133) Cost effectiveness of other child health services is less well established, however. Several studies of Medicaid's EPSDT program (early, periodic screening, diagnosis and treatment) show long-term program savings and less medical utilization by screened children compared to non-screened children, (133) but there are few other data on cost effectiveness of children's health care. Based on a belief that covering well child care would be a sound investment and would yield useful data on costs and benefits, in 1980 Pennsylvania's state employee health plan began to cover a schedule of preventive care for dependents' children under 18.(129) Four states and Congress are considering legislation to require insurers to offer preventive

care for children in group contracts.(133, 134) Purchasers might consider adopting a carefully designed schedule of children's health care drawing from the Pennsylvania model and perhaps phased in for young children. In any event, further evidence of cost effectiveness should be available in the near future, and purchasers should be prepared to modify their benefits to include demonstrably cost effective services.

G. Routine Preventive Screening for Potential Illness

Early detection of disease is often thought to be cost effective because it is assumed that it is less expensive to treat earlier in illness than later. If this assumption is true, including preventive tests in an insurance benefit could be cost effective. The once popular routine annual physical and multi-purpose screening of apparently healthy people to detect illness and disability have, however, been widely criticized as neither cost effective nor ethical in all cases. Critics argue that most screening tests have not been adequately shown to save costs, because in attributing success to screening tests, most experiments fail to control for intervening variables, do not evaluate the issue of patient self-selection, and do not establish appropriate content or frequency of screenings or what personnel should perform them.(115) A test is not cost effective if: the disease screened for has a small incidence; the disease does not significantly affect the quality of life; the test is not accurate to detect a condition; the condition cannot be treated with reasonable success; early detection does not increase the chance of successful treatment; or test costs are very high.(108)

A few screening tests seem to meet these standards for cost effectiveness for at least some populations on some periodic schedule.(107, 108, 109) For instance, although not considered necessary annually, pap tests are believed to be useful every two to three years for women who have not had a previous positive test and more frequently for those who have.(109, 111) As discussed in Section IX.A. certain health risk appraisals targeted to workplace illness and disability may also be cost effective. Public health experts have proposed "the lifetime health monitoring program," a schedule of preventive screening examinations, looking to detect disease conditions that are likely to arise during the average lifespan, which would meet the standards for effectiveness.(12) But even these authors do not attempt to justify each test on the basis of pure cost effectiveness or cost benefit. As noted above, the Pennsylvania state employees plan covers the services for dependents under 18 that were recommended by these authors, and it is currently studying their impact on cost and health status.(129) From a strict cost containment perspective based on current knowledge, purchasers may not wish to cover preventive screenings in health insurance benefits packages. One value to such screenings, however, would be the potential for patient education that can result from a regular, though less frequent than annual, contact with a primary health care provider. Reimbursing the cost of a biennial or triennial preventive care visit to a physician could encourage such regular contact with a health professional, although it might be difficult to administer.

H. Treatment of Mental Health, Alcoholism, and/or Drug Abuse

Treatment for mental illness and alcoholism has been thought to be a cost containment device where such care not only meets specific therapeutic needs but also substitutes for other medical services. Although there are no sound data on prevalence, alcohol problems are estimated to affect 5% to 10% of working Americans; and 10% to 15% of all Americans are estimated to need mental health care.(101) Some persons unable or unwilling to obtain treatment for these conditions use other medical care services to a greater extent than they would if treatment for mental illness, alcoholism, or drug abuse were readily available. Although the purpose of such care is primarily to address the disabilities of these conditions, if it secondarily limits use of other health services, it could be an especially important addition to a health insurance benefits package.

In a literature review of twenty-five studies of reduced health care use subsequent to outpatient mental health and alcoholism treatment in workplace or organized settings, Jones and Vischi found that most studies demonstrate lowered health care use by persons who have received alcohol or mental health care services and particularly as the period after therapy increases.(56) Most of the studies attribute this utilization change to the mental health or alcoholism treatment. But Jones and Vischi caution that all the studies are subject to methodological limitations and that more research is needed to verify this relationship. A recent five-year study concluded that persons receiving outpatient mental health care used only 2/3 as many non-psychiatric visits as the non-treated control group and incurred lower charges for those services (although use patterns before the mental health diagnosis were similar for the two groups). This "offset effect" was greatest for persons in the treated group with less severe mental illness. But despite lower utilization rates and contrary to some earlier studies,(56) when the costs of mental health and other care were added, the total health care bill for the mental health patients still exceeded that for the control group.(11)

It has been argued that even if separate mental health and alcoholism services do not reduce health care use, integrating these treatments into regular medical care should save systemwide costs.(101) But that view is not widely shared. Currently, therefore, it is entirely unclear whether insurance coverage for mental health, alcoholism, and drug abuse treatment can lower overall health care costs. Present requirements of Colorado law may even raise costs by mandating that insurers and hospital service plans (Blue Cross), but not HMO's, cover at least 45 days of inpatient mental health care and outpatient visits (if outpatient care is covered in the policy). These carriers are also required to offer group purchasers the opportunity to buy a similar alcoholism benefit. There is doubt that inpatient mental health or alcoholism treatment is as effective as outpatient care in all circumstances, and it is much more expensive. Furthermore, the Colorado inpatient coverage is renewable each year and therefore provides no incentives for alcoholic patients, for instance, to remain rehabilitated. When not carefully designed, some "mandated benefits" may therefore actually add to health care costs.

VI. UTILIZATION CONTROL

Utilization control is a policy or procedure to minimize unnecessary or inappropriate health care within a given benefit package. Direct controls over the type, frequency, and site of services used by program enrollees are one of the most common forms of cost containment. The concept of utilization review by hospital committees was integral to the 1965 enactment of Medicare and Medicaid. In fact, public programs, which have more apparent flexibility over payment policies, have pioneered a variety of utilization control strategies. Utilization control policies include reviewing the medical justification for surgeries or other hospital admissions, reviewing hospital stays and ancillary services, and discharge planning to complete the course of acute care. This section describes the general models of utilization control, but it must be remembered that there are innumerable technical variations on utilization review activities including such issues as who is the reviewer, what standards apply, and the impact of a review decision. In varying degrees, HMO's use utilization controls, which is one reason for their reduced hospital use and lower costs.

Controlling utilization of medical care to avoid unnecessary services has not only the potential for cost containment but also the opportunity to improve health. Hospital admissions carry a real risk of iatrogenic (medical-system induced) illness. One study in a University hospital found that 36% of admitted patients contracted one or more iatrogenic illnesses, which caused 9% to become seriously ill and 2% to die.(123)

Retrospective review and denial of hospital claims on the ground that the admission was unnecessary or too long is an important feature of a claims processing system to assure that the plan does not pay for uncovered benefits. However, retrospective review merely shifts the costs of care to the subscriber or provider (if the provider is prohibited from billing the patient) and is therefore by itself neither a use control nor an overall cost control device. It can, of course, provide very important data pointing toward overused services and overservicing providers, which is important in designing targeted utilization control activities and provider education and feed-back programs. Delaware's Professional Review Organization (PRO), for instance, uses retrospective review of hospitalizations to locate physicians with inappropriate practice patterns. It then applies specific utilization controls such as consultation, pre-admission and concurrent review, and discharge planning, to these physicians. This is a valuable use of retrospective review to focus on providers needing special attention.(61)

It is well recognized that due to training, financial incentives, peer performance, and other factors, physician treatment varies widely within a given diagnosis, although outcomes from this variety of practice patterns are similar.(65) Except for second surgical opinions, which require consumer initiative and decision-making, most utilization controls therefore attempt to change physician behavior. This can be accomplished through feed-back and education or payment incentives. Although most employer-sponsored utilization review programs use the latter approach, several clinical studies have found education to be effective. For instance, programs of concurrent hospital review that provide quick feed-back to physicians on individual practice aberrations appear to change their behavior. Transmitting to physicians data about small area variations in

hospitalization, which are believed to be caused by physician practice styles, has also helped change physician practice.(18) The recent availability of provider-specific analyses, such as those showing variations in length of stay or numbers of non-acute hospital days(58) can also point up apparent practice style differences that can be changed to save money and improve quality of care. To be effective, physician education programs must be regular and immediate. But they do not have to be complex or formal. A variety of approaches to induce physician attention to practice patterns and peer scrutiny seems to effect behavioral change. Since strategies with payment consequences are used more often than educational ones, this section generally emphasizes the traditional utilization control mechanisms designed more directly to control unnecessary plan use through reimbursement.

A. Second Surgical Opinions

One of the oldest utilization control strategies in the private sector is the second surgical opinion ("SSO"). A plan with SSO will pay for a second opinion to verify the appropriateness of elective surgery, but obtaining the opinion may be optional. The plans that are more likely to save costs, however, require a second opinion for selected surgeries from a closed panel of experts. If the patient obtains an SSO, some plans pay for the surgery regardless of whether the opinion confirmed its need, while others pay only partially, if at all, for procedures performed against the advice of the second (or third) opinion. A less punitive approach used by the state of Utah and some private firms is a small bonus to employees who obtain and follow the second opinion.(17,78) Some Prudential Insurance plans eliminate the otherwise applicable coinsurance if the enrollee obtains a second opinion that confirms the need for surgery.(69) SSO can also be applied against problem physicians.

SSO is a useful cost containment strategy since about 2/3 of health insurance benefits costs are attributable to hospitalization and almost 1/2 of hospital admissions are for surgery, most of which is elective. Per capita surgery increased 83% between 1971 and 1982, due apparently to the increased number of surgeons and possibly to unnecessary surgery.(71) Estimates on the extent of totally unnecessary surgery are variable and contested, but avoiding any unneeded hospital admission saves health care dollars as well as the risk of iatrogenic illness. A leading SSO analyst found that 12% to 18% of second opinions do not confirm the need for surgery and argues that this care would be unnecessary.(69, 71, 72) Second opinions should apply to outpatient as well as inpatient procedures, although the latter is most common. In the future purchasers should monitor outpatient surgery and be prepared to address it as it becomes more prevalent.

Savings from SSO are direct (foregone surgery, reduced absenteeism) and indirect (the sentinel effect on providers and community awareness of the appropriateness of questioning the need for surgery). A recent HCFA study of Medicaid SSO suggests that most savings are indirect. Of the 18% reduction in surgical costs, 16% was not attributable to a non-confirming opinion but to unexplained indirect effects.(84) Cost effectiveness calculations are difficult because researchers cannot determine the degree to which the consultation itself influences behavior; the additional information provided through a second opinion (involving pros and cons of

surgery and other treatment options) may influence patients more than the second opinion itself.(68, 84)

Purchasers report varying savings from SSO. Numerous states, including Arizona, Colorado, Kentucky, North Carolina, Utah, and Wisconsin, as well as private employers have SSO programs in their employee health plans, although most are voluntary.(69) Colorado's Workers' Compensation program began SSO in July 1985. North Carolina reports a savings of $1.5 million in 1984 (0.75% of premiums paid) from surgeries avoided by SSO.(78) Kentucky estimated saving $800,000 in 1983 out of a $1.3 billion state employee health plan budget.(17) An HRI study found that large employers with SSO averaged 2.8% savings in 1983.(51) A comprehensive 8-year study of SSO showed savings of $224 per participant in direct costs (medical claims foregone and days lost from work, etc), for a cost-benefit ratio of between 1:2 and 1:3. The ratio would have been higher with higher wage employees, a program that did not pay for surgery if not confirmed, or a targeted program.(69) The firm of Owens-Illinois saved $300,000 in one year with SSO, a 1:4 cost-benefit ratio.(49)

However, evidence on cost savings of SSO varies. Blue Cross/Blue Shield of New York decided several years ago that voluntary SSO were not cost effective because more subscribers had a surgery when confirmed by a second opinion than they said they would have had if they had not sought the second opinion initially. Other purchasers have found voluntary programs to save costs but at a much lower rate than mandatory programs.(70, 71, 72) Still others dispute claims of cost effectiveness.(26)

Colorado's SEOGIB has required SSO for ten procedures since 1980. (Appendix A) If subscribers fail to obtain a second opinion, the plan pays only 50% of the surgical benefit. Data from the fourth quarter of 1984 and first quarter of 1985 show that surgery was not confirmed by the second opinion in only 2 cases out of 52 for which it was sought. Among over 300 claims for the ten procedures received during that same time period, however, second opinions had been received in about 1/4, waived (because of distance from an appropriate specialist) in almost 1/2, but not sought in about 1/3 of the cases, for a savings of almost $40,000 in those six months. These "savings," however, are all costs shifted to plan enrollees, who may not have understood the SSO requirements. If second opinions had been sought, it seems likely, based on the approval rate, that many would have confirmed the need for surgery, so plan savings would have been much lower. SEOGIB's experience with SSO seems somewhat aberrant, since other employers with mandatory programs (e.g., Kentucky) have higher rates of non-confirming opinions and more employee participation.(69) It is difficult to know whether a sentinel effect is operating in SEOGIB's SSO, considering the high rate of failure to obtain the opinion. McCarthy states that in the first year of SSO there may be as many as half the surgeries subject to SSO that do not receive it due to ignorance, but that rate should decline to 10% to 15% in succeeding years.(71)

Kentucky state employees were able to obtain a rate discount from their insurer due to the implementation of the SSO program. Even without such an immediate payback, program costs are likely to be recouped within the first year. The "sentinel effect" often attributed to SSO programs would save overall surgery costs over time, but would also show less saving for the SSO program itself over the long run.

Although SSO can improve quality of care by avoiding unneeded surgery and it is said to produce a sentinel effect, the program has some disadvantages. Foremost is resistance from patients and providers. Employers initiating second surgical opinion programs can avoid employee confusion and resistance by thoroughly educating employees in the programs benefits (the health risks of unnecessary surgery) rather than emphasizing cost control exclusively. Owens-Illinois attributes its high degree of employee satisfaction with the program to education and the use of patient services coordinators to assist in explaining the program.(49) Some patients would like a second opinion but may feel awkward in confronting their physicians with such a request. If the SSO policy is mandatory, employees can place the onus of requesting the opinion on the insurance carrier, and this perspective should be explained.(70) SSO should be one part of a larger process of helping consumers to be more prudent purchasers (see Section IX) and can reassure them when surgery really is needed.

Problems of physician acceptance may be more difficult to overcome, although this opposition may diminish with increased familiarity with the SSO concept and the large supply of physicians in urban communities that brings competition for patients. McCarthy points out that since few indications for surgery are precise and uncontroverted, physicians can benefit from the consultation that a second opinion provides. But physicians may still resent the intrusion on their discretion.

Another problem raised by second opinion programs is that people may be deterred from obtaining needed care. In one study of an SSO program where a third opinion disagreed with the second opinion and confirmed the need for surgery, 2/3 of these patients still refused to undergo surgery.(13) This suggests that SSO programs might have the unintended effect of discouraging needed care and could adversely affect health status; the issue of quality of care certainly requires more research.

Important issues to resolve in establishing a second opinion program are which procedures should be subject to the opinion (since targeting will provide the greatest cost effectiveness(72)); what physicians should render the opinion and what standards should they apply; what incentives should be included; and how to educate employees and simplify administration of the system. McCarthy feels that SSO programs must remain in place, since despite any sentinel effect denial rates of 12% to 18% remain fairly constant over time.

The most cost effective SSO programs target certain surgical procedures for review, although McCarthy's studies show that even universal programs are cost effective and avoid unneeded surgery. Ten procedures in the SEOGIB plan and nine in North Carolina's state employee plan are subject to SSO. McCarthy studied eleven and found that while all had positive benefit-cost ratios, eight were particularly cost effective. (Appendix A) Selecting procedures for the program should be based on at least general knowledge of the types of surgeries commonly performed on the purchaser's population, the population's demographics and likely needs, and the types of procedures that are costly, often overused, or widely varying in the general population. McCarthy's 1979 study of SSO showed that the most frequently non-confirmed procedures were: knee and bunion surgery, hysterectomy, and prostatectomy. It appears that many purchasers have adopted SSO programs based on national norms for potentially overused surgery rather than

analyzing their own claims experience. Claims analysis such as that done by HDI for the Colorado Medicaid program can be used to identify an individual purchaser's surgery that could most benefit from a second opinion program.

The second opinion can be rendered by any licensed physician or by only those in a closed panel, such as a Peer Review Organization or other group. It can be done by surgeons only, non-surgeon specialists only, or a combination. In any case, a physician with a financial connection to the referring physician should not be permitted to render a second opinion. The closed panel approach provides more control over the practice patterns of the second physician. Using a closed panel of established practitioners or setting up such a panel composed of physicians with conservative practice styles and philosophies would be most likely to provide control. Most programs require the second physician to examine the patient, but a few allow review of only the record in certain cases.

Education, especially of consumers, is necessary for SSO to operate as intended. A variety of approaches including personal meetings or video presentations, payroll stuffers, posters, leaflets, and selected information on claims forms, have been successful in educating consumers in public and private sector SSO programs. McCarthy has found, for instance, that a red boxed statement on each claim form has increased employee awareness of SSO. He also believes that sending notices regarding such benefits limits home to the wife is the single best means of subscriber education. Follow-up letters to persons failing to obtain second opinions have also been effective.(71) The challenge is to provide accurate and yet brief information about particular benefit limits requiring consumer action before obtaining medical care that will allow the consumer to make an informed economic choice. Such a task requires creativity and constant attention.

B. Pre-Admission Review

Pre-admission review (pre-admission certification) is closely related in concept to second surgical opinion, but is done by a review organization and does not involve a physical examination. Under such a program, all cases, or those with selected admitting diagnoses, are reviewed by a nurse with physician back-up or a physician reviewer (often in a PRO or an insurance carrier) to determine medical necessity of the hospital admission. Pre-admission review may approve a number of days for payment, with additional days subject to later review. Unlike SSO, pre-admission review may suggest that a diagnostic or treatment procedure is necessary but should be performed on an outpatient basis. Incentives to use pre-admission review may be positive (a higher payment for admissions authorized) or negative (a lower payment or no payment for unauthorized stays). The firm of Deere and Co. uses pre-admission review as a utilization control on individual physicians with aberrant behavior.(17, 24)

It is estimated that from 5% to 20% of hospitalization is unnecessary for surgery or other care(69, 88), so that pre-admission review can be effective if targeted to inappropriate hospital admissions. The recent HDI analysis of Medicaid claims, for instance, suggested the usefulness of increasing screening to eliminate hospitalization for tonsellectomies and treatment for asthma and gastroenteritis in the AFDC population.(131)

Pre-admission review has been used in state Medicaid plans for many years and more recently by state employee insurance, for instance in Arizona; Colorado's Workers' Compensation program began such a program in July 1985. Although pre-admission review is not yet widely used in the private sector, those large private firms that do use this strategy reported saving 3.2% of plan costs in 1983.(51) With costs of the review averaging $12 to $15 per admission, net cost savings per insured average $20 to $30, with a cost-benefit ratio of from 1:1.4 to 1:18.(24, 69) The Kentucky PRO recently reported a cost-benefit ratio of from 1:70 to 1:120 for its pre-admission review program.(81)

Colorado's Medicaid program initiated pre-admission review for six diagnoses in October 1982. Comparisons of three quarters before and seven quarters after the program began show a reduction of over 50% in admissions for those diagnoses for a savings of over $670,000. This evaluation does not control for possible case mix differences or other variables that could explain the drop in hospitalization, but it does suggest that targeted pre-admission screening can reduce utilization to some extent. In 1984 7.7% of proposed admissions were denied under this program. The HDI study suggested that compared to private firms HDI had analyzed, Colorado's Medicaid program has generally controlled inappropriate admissions well, but as noted above, HDI did suggest extending pre-admission review to a few other procedures where hospitalization is questionable.(131)

Advantages to pre-admission review include avoided risk of iatrogenic illness and complete cost avoidance (rather than the cost shift created by a later hospital review). Like other utilization controls, however, providers and patients may resist the intrusion on medical judgment. Such sentiments may be changing due to experience with utilization control programs.(83) A greater disadvantage to pre-admission review is its relative administrative complexity. Like SSO, it requires knowledge by enrollees and providers and may require a patient services coordinator to facilitate information exchange.(49) It should be designed to be flexible and expedient to avoid inconvenient delays.

Issues that must be addressed in designing a pre-admission review program are: which diagnoses or procedures should be reviewed, according to needs and use patterns of the enrollee population (targeted review seems more cost effective); what organization should conduct the review (PRO, insurer, consultant) and what should be the qualifications of reviewers (most use RN's using written protocols with physician back-up for marginal cases); what services should be exempt from review (emergencies, maternity, substance abuse, and psychiatric care are exempt in some programs); how can the administrative structure and enrollee education be established in the least cumbersome but most cost effective manner (telephone authorization is quicker but less detailed; on-site review is very costly; written review is time-consuming); should it be coordinated with concurrent review in a process that establishes an approved length of stay that is reviewed for appropriateness during the admission?

C. Ambulatory Surgery

As technological developments increase speed and safety of surgery, a larger number of surgical procedures can be performed on an outpatient basis. It is estimated that 20% to 60% of currently performed surgeries

(700 procedures) can be done outpatient because they are short and uncomplicated.(69, 79, 125) Eliminating even a day of hospitalization not only saves money but avoids the risk of iatrogenic illness.(67, 79) Despite these obvious advantages, a great many surgeries appropriate for outpatient care are still done on an inpatient basis. In its recent analysis of Medicaid hospital claims, for instance, the Health Data Institute suggested that many inpatient tonsellectomies and some other procedures could be performed as safely on an outpatient basis.(131)

Ambulatory surgery can merely be a covered benefit or it can be mandatory. In a mandatory program, for a given list of procedures, payment will be made, if at all, at a lower rate if the surgery is performed inpatient. SEOGIB's plan, for instance, will not pay for the inpatient charges associated with any of the 50 procedures on the outpatient list if performed on an inpatient basis, except where the attending physician demonstrates the need for hospitalization. Ambulatory surgery can be performed in hospital outpatient departments, free standing surgical centers affiliated with hospitals, or independent free standing centers. Some can be performed in a physician's office, but most ambulatory surgery programs will pay for only those procedures done in an organized outpatient surgery center. (Blue Cross of Arizona has adopted financial incentives to move more surgery into physicians' offices.(125)) As noted below, costs differ among the settings.

Many private and public employee plans (including those of Colorado, Illinois, Kentucky, North Carolina, and Utah) have mandatory ambulatory surgery programs. Large private firms estimated saving about 3% of claims from this requirement in 1983.(51) Fortune 500 firms rated ambulatory surgery as the single most effective cost containment strategy among 15 options in a 1985 survey.(125) Kentucky estimated saving $1 million in 1983 (1% of claims costs) with a 50% discount for inpatient procedures on the outpatient list. A 1977 HCFA study of outpatient surgery in Arizona found that costs for the same procedure done in a hospital-affiliated free standing center to be 46% less than those for surgery performed inpatient; costs for surgery in a free standing surgery center were 55% less than those for surgery performed inpatient and 15% less than those for surgery done in the hospital outpatient department.(76) These savings are attributed to lower overhead, smaller staff, and fewer lab tests and other ancillaries. These figures do not include the additional savings in less employee time away from work. About 90% of Colorado hospitals operate outpatient surgery facilities; and there are six free standing surgery centers currently licensed in Colorado.

Ambulatory surgery provides several advantages: convenience, time saved, general acceptance by patients(67, 76) and demonstrated quality equivalent to inpatient surgery.(67, 79) The major problem it still presents is some physician resistance, which seems to be diminishing. Another problem that all utilization controls will create is that outpatient surgery could lead to higher inpatient surgery prices by leaving the highest cost surgery patients in inpatient facilities. Furthermore, unless prices are monitored or controlled, ambulatory surgery could become more costly than that in inpatient settings. (Medicare recently learned, for instance, that payments for cataract surgery to many outpatient departments and free standing centers are more than double those to some hospitals.) But as hospitals become more willing to bargain, purchasers could obtain discounts

for outpatient department surgery that are lower than prices in free standing centers, and the potential for such price negotiations should be kept in mind.

In establishing an ambulatory surgery benefit, a purchaser must decide the procedures to target; whether to prohibit the use of the most costly providers; how to assure quality of care (through licensing or accreditation); how to monitor quality of care if surgery is performed in physician offices; how to educate providers and consumers (active education of the program's benefits seems important (125)); who reviews requests for exceptions; and what type of incentives to include to make the program function as intended.

D. Non-Emergency Ambulatory Care in Appropriate Settings

It is generally believed that some people, especially those without regular physicians which may include the poor, use hospital emergency rooms for routine, non-emergency primary care.(121) Emergency rooms are a very costly setting for such types of care but have in the past been reimbursed more generously than other outpatient providers. Private sector plans do not seem to provide specific limits on payment for non-emergency care in emergency rooms, perhaps because it has not been seen as a major problem. But state employee plans in Oregon and Illinois impose copayment on non-emergency ER visits. A recent study suggests that cost sharing curbs emergency room use especially for non-emergency care.(121) In order to contend with apparent over use of emergency rooms and other potential unnecessary care, Colorado's Medicaid program initiated its "primary care physician program." Under PCPP, each Medicaid beneficiary chooses a single primary care physician case manager who either provides care directly or authorizes referral for care. Among other services, Medicaid will not pay for use of emergency rooms for non-emergency care unless the PCP has authorized its use. Medicaid estimates a savings of $3.6 million for the first two years of its PCPP. While employers may not wish to impose such a structure upon employees, the PCPP uses elements similar to organized systems such as HMO's and PPO's, and its experience as a containment strategy can therefore provide lessons for employers. Some limits on coverage of non-urgent care in emergency rooms by cost sharing or payment differentials seem appropriate in an insurance plan.

E. Hospital Concurrent Review

Even for hospital admissions that are medically appropriate, it is estimated that from 10% to 25% of days may be unnecessary.(87, 88, 112) Reasons for unnecessary care include days for tests, patient or physician convenience, and unavailability of post-acute care such as a nursing home bed. Although Colorado's Medicaid program uses concurrent review, which it estimates to save about 4% to 5% of its hospital budget, the HDI analysis of Medicaid claims still shows a significant variation in AFDC clients' length of stay among hospitals; it is unclear how much of this variation is justifiable due to case severity or inappropriate due to physician practice style or other factors.

Concurrent review during a hospital stay, especially if combined with discharge planning, can eliminate unnecessary hospital days, although these extra days do not contribute significantly to the variation in hospital

costs.(18) The national average length of hospital stay has fallen steadily in recent years, attributable partially to increased use of such concurrent review activities but also to prospective payment under Medicare and other programs and probably to yet unexplained factors.

Concurrent review occurs at some fixed time early in the hospital stay. It may be used to review the appropriateness of admission or the necessity of continued stay. If performed in conjunction with pre-admission review, it can occur before the end of the initial approved stay to determine whether additional days are needed. The concurrent reviewer may establish an initial length of stay which is a pre-requisite to later payment. Concurrent review may also be used to analyze appropriateness and consult with the physician without a direct payment consequence.(87) Review can be conducted by a hospital Utilization Review Committee, an outside organization like a PRO, or an insurance carrier. Diagnoses or procedures can be targeted for review. The incentive to use concurrent review is usually lower or no payments for non-approved days. Several well tested instruments and procedures are available that assure a methodical and reliable concurrent review process.(112) It should be kept in mind that unless a reviewer is on-site in the hospital, "concurrent review" is always somewhat retrospective, but it is still provides more useful feed-back to physicians than a later pre-payment review of the case.

The cost of hospital ancillary services (tests, pharmacy, physical therapy) can constitute over half the cost of a hospital stay. The numbers of such procedures seem to be increasing, despite the fact that many are of dubious utility.(32) One recent study showed that ancillary charges had higher profit margins than charges for routine hospital care.(37) Since physicians generally have considerable discretion in ordering ancillaries, they offer an opportunity for savings through concurrent review of appropriateness, either before or after they are performed.(32) Because of the large number of ancillary services performed for each inpatient admission, targeting to costly or overused procedures is necessary to assure that such review is cost effective. Although it has proven successful in changing physician behavior in some clinical tests, little ancillary review is now being performed by public or private employers. Purchasers should place greater emphasis on reviewing ancillary services and charges and direct cost containment techniques toward them. (In addition to concurrent or retrospective review, prospective hospital payment that includes routine and ancillary costs provides incentives for hospitals to limit ancillary services.)

From 10% to 25% of hospital days can be eliminated though concurrent hospital review, and such programs are widely used in the private sector. These extra days tend to be those early or late in the stay, which are of lowest cost. Avoiding them can save up to $100 per case at a cost of $10 to $20 per case, for a cost-benefit ratio of from 1:2.7 to 1:15.(24, 87) Large employers estimated savings of 6.1% of claims costs from concurrent review in 1983.(51)

Concurrent review has the advantage of avoiding the risk of iatrogenic illness(30) and can save costs by lowering length of stay and by the sentinel effect upon and education of providers.(102) Nevertheless, it may not be as sensitive as needed. It is estimated that due to the delays inherent in the process, concurrent review only eliminates 10% of

unnecessary hospital days.(10) Furthermore, like other utilization controls, this program may meet provider and patient resistance; in particular it may appear to duplicate institutional UR committees with similar functions. Furthermore, due to the need to review charts, concurrent reviewers must generally enter the hospital, so the process is time-consuming and may be profitable only for large employers or coalitions with many patients in an institution simultaneously. (Telephone reviews performed in rural hospitals are less costly but rely heavily on hospital-provided data, which may be inaccurate.) Despite favorable cost-benefit ratios, there is some evidence that extra hospital days do not contribute as significantly to hospital costs as do admissions(18), so that concurrent review may be less cost effective than other utilization review programs. Other forces, such as prospective hospital payment, also induce shorter hospital stays and may render concurrent review less useful in the future.

Issues that must be addressed in designing a concurrent review program, as with pre-admission review, are which diagnoses, procedures, or services such as ancillary services should be reviewed, according to needs and use patterns of the enrollee population; what organization should conduct the review (the hospital's internal UR committee is less cost effective and therefore a less appropriate organization than an outside agency); what type of medical audit system to use; how to establish a simple administrative structure; whether to authorize a length of stay (which may induce its full use) or merely repeat review in longer stay cases; whether to coordinate concurrent review with pre-admission review; how to notify patients and physicians of non-approvals and how to resolve disputes about them.

In its evaluation of the current 100% concurrent review program under Medicaid, the Colorado Foundation for Medical Care (the Colorado PRO) concluded that the program has been successful but should better define inappropriate care, encourage the use of less costly alternative care, and be targeted to cases of overused care or particular physicians.(131)

F. High Cost Case Management and Discharge Planning

Discharge planning is closely related to concurrent review, since it involves discharging patients as early as possible and arranging their post-hospital follow up care. But because it can be established independent of other cost containment strategies, it is treated separately here. Discharge planning is usually performed within the hospital, however, purchasers interested in emphasizing this strategy would want to use outside personnel. Although discharge planning has been available for many years, it appears not to be used broadly as a cost containment strategy independent of concurrent review. There is thus little information on its cost-effectiveness, although one union's program of discharge planning combined with concurrent review was reported to save an average of at least one hospital day per admission.(46)

A targeted type of discharge planning is high cost case management. Studies have shown that 10% to 15% of hospital patients consume as many resources as the remaining 85% to 90% of patients.(113) Two-thirds of these high cost patients were concentrated in six diagnoses (alcoholism, bowel disease, cancer, congenital defects, kidney failure, and degenerative vascular disease). The remaining one-third of the high cost patients were diagnosed with pulmonary disease, infections, musculoskeletal disorders,

endocrine or metabolic disease, and trauma.

Special attention to manage the care for these costly patients is gaining wide attention. The few existing high cost case management programs target medical episodes that are likely to be very costly due to the traumatic nature of the illness (premature delivery, head or spinal cord injury, stroke, burns) or the patient's general chronic condition (multiple sclerosis, back pain, heart disease). High cost case management involves the use of a health services coordinator to develop an individual, cost effective plan of care (including outpatient care and specialized therapies) for such patients who might otherwise remain hospitalized for long stays. This type of case management is designed to overcome the fragmentation of medical, health, and social services needed by these clients by assessing health needs, planning care, and coordinating community-based services. The program is directed at assisting patients to achieve maximum functional levels, return to work, and reduce treatment costs.

High cost case management has been used for many years by workers' compensation programs and casualty insurers. It has recently begun to be offered as an extra service by health insurance carriers such as Equitable. Patients in such a carrier-sponsored plan (for which purchasers pay additional fees) are identified in a variety of ways (through a pre-admission review program, through knowledgeable providers, or when claims are processed). Equitable targets eight types of diagnoses and with 250 active cases reports an average per case saving of $40,000, based on foregone hospital or nursing home costs. Arizona's state employee health plan has a similar catastrophic illness case management program for victims of stroke, spinal cord injury, premature birth, and burns.

Since August 1983 Colorado's SEOGIB has operated a slightly different case management system designed to save primarily institutional costs.(52) Patients are identified at or before admission and are encouraged but not required to join the program. The case manager establishes an individual care plan and coordinates the service arrangements to permit discharge from hospital or nursing home. All enrollees admitted to the hospital are invited to participate, regardless of diagnosis; the program is not just for high cost or catastrophic illness. About 8 percent (49 patients) of the 600 inpatients in the last 6 months of 1984 did avail themselves of case management, mostly for chronic illness. Reductions in hospitalization and nursing home confinement (based on estimates of likely institutionalization without the program and on per diem charges) resulted in an estimated net savings of almost $150,000. The case management program cost about $27,000, for a cost-benefit ratio of 1:5.

Discharge planning programs can be structured in a wide variety of ways about which it is difficult to generalize. Issues that purchasers should address on discharge planning include: what diagnoses or cases to cover; whether participation in the program is mandatory for those classes of cases; what personnel should be case managers; whether case managers plan and facilitate care delivery or actually provide care. Although targeting costly diagnoses seems prudent, the SEOGIB program has been fairly successful in enrolling participants by personal inpatient contacts. Cost savings from and experience under this program should be monitored in the future and shared with other state purchasers.

G. Utilization Review Summary

In general, utilization control programs have become more regularly used by purchasers and more widely accepted by patients and providers. They seem to generate health care cost savings, especially when mandatory, as opposed to voluntary, and when targeted to widely variable and discretionary, costly, or potentially unnecessary care. Targeting should occur through analysis of the purchaser's own experience through claims review or medical record audit, tempered by national and local data on potentially overused procedures and overservicing providers (for instance, through small area variation analysis). Future emphasis should be placed on review and control of outpatient and ancillary services and charges.

To be effective, utilization controls should: 1) be appropriately targeted to areas of abuse and high cost; 2) be established through acceptable standards of medical practice; 3) be defined specifically; 4) be administered simply, consistently, efficiently, and in a timely manner; 5) include incentives and disincentives that are clearly delineated and communicated to produce the desired impact on health status, quality, and cost; and 6) be regularly monitored, evaluated, and modified as needed. Utilization controls on hospital admission, as opposed to continued use, are most cost effective. Any utilization review system must be flexible enough to respond to changes in provider behavior and to meet current conditions. For instance, review of continued hospital stays may need to give way to review of ancillary services. Ambulatory surgery requirements may need to be refined to assure that surgery occurs in the least costly settings. Since providers will respond to cost containment initiatives by seeking to maximize revenues, it is important that the plan be able to thwart provider attempts to raise costs that are not being monitored.

In order for utilization controls to limit reimbursable care under a health plan contract, the plan should expressly limit benefits to those determined to be "medically necessary." If retrospective review is conducted, plan contracts should require that providers hold patients harmless from costs of care determined to be unnecessary or inappropriate. John Deere and Co. reports successfully defending its employees in cases where physicians attempt to collect the charges for these unnecessary services. The contract further should allow reviewers access to medical records if record review is contemplated. Purchasers should keep in mind that price and utilization are both factors in the health care cost equation and that as hospital use and occupancy decline, unit prices will go up to cover this excess capacity, unless bed supply is reduced in some way or prospective payment policies are adopted.

VII. SELECTING COST EFFECTIVE PROVIDERS

Benefits design and utilization limits can afford purchasers considerable control over health benefits costs. But with the new and varied types of delivery systems developing in the marketplace, an equally important cost containment strategy to consider is the decision to buy care from only certain, cost effective providers that by various internal means control benefits and use of services. Delivery systems such as HMO's, which have become popular in the last ten years, are now well accepted and generally understood. New organizations are now emerging rapidly to take advantage of purchasers' interest in cost containment. Preferred Provider Organizations, offering discounted fees for greater patient share, are one such fledgling concept. The Medicaid primary care physician program(27) and primary care networks(94) and the pilot program for state Workers' Compensation cases are other attempts to focus the decisions about health care on a single physician or organization and give a financial incentive to provide and prescribe care prudently. The potential for new and varied delivery systems is as vast as insurance and antitrust regulation will permit.

This section of the report will describe HMO's and PPO's as examples of established and new organizational approaches. It is not possible to anticipate all possible new health care delivery forms, but this section suggests some general guidelines for evaluating them as they develop.

A. Health Maintenance Organizations

The Ross-Loos Health Plan founded in Los Angeles in 1929 is generally recognized as the nation's first Health Maintenance Organization (HMO), although it is less well known than its neighbor, Kaiser-Permanente.(50) An HMO is an organization that is contractually responsible to provide all needed health care (within a given benefit package), to a defined enrollee population, for a fixed periodic per capita (capitation) payment, for which the organization is at financial risk.(63) As a leading analyst of HMO behavior points out, beyond this general definition, HMO's vary considerably in benefit structures, payment, ownership, size, enrolled population, cost sharing features, degree of risk assumed, and management.(63)

HMO's are generally described by the manner in which they pay physicians, since this implies greater or less control over physician behavior. A salaried model, such as Group Health of Puget Sound, hires physicians directly. A group practice model, such as Kaiser-Permanente, contracts with a multispecialty group of physicians. An Independent Practice Association (IPA) model, such as Comprecare or HMO Colorado, contracts with a large number of individual and group practice physicians who are not directly associated with one another but have common responsibilities to the HMO; IPA physicians may be paid on fee-for-service or capitation basis. They retain their private practices and see non-HMO patients. Some HMO's, such as Kaiser, own their own hospitals (and a few hospital chains operate HMO's), but most HMO's contract out for hospital and some specialty physician care.

HMO's have become more popular and well accepted in the last decade since the federal HMO Act of 1973 required all employers of 25 or more persons who offer insurance to offer an HMO (meeting federal standards) if available in the area as a choice along with any other type of plan.

Despite the rapid increase in HMO enrollment and the growth of a proprietary HMO sector (which usually signals acceptance of a business by the financial markets), only about 10% of employees are offered a choice of joining an HMO(39) and only about 5% to 10% of persons with employment-based insurance are enrolled in HMO's.(105) Market penetration in some states and localities is, of course, much higher.(7) In Colorado, HMO's have enrolled about 8.4% of the population. In the Denver metro area alone, 40% of large employers offer Kaiser, with smaller percentages offering one or more of the other four of the other metro area HMO's.(77) SEOGIB offers all seven Colorado HMO's to employees within their respective service areas.

Health Maintenance Organizations are attractive to purchasers because by imposing on providers the risk of providing all an enrollee's health care, the organization has incentives to provide care efficiently and keep enrollees well ("health maintenance"). HMO's attempt to accomplish these objectives by hiring personnel who will work within such an organizational imperative, using utilization controls and outpatient surgery, and providing preventive care and early treatment to deter or detect conditions that could be costly to treat later. HMO's have been particularly successful in curtailing use of hospitals, health care's single most costly element. The very financial incentives that induce HMO's to operate efficiently, however, can operate equally strongly to deny or delay access to needed care, since the organization retains premiums not spent on care. This problem has been illustrated most dramatically among HMO's caring primarily for the poor.(20)

Health care purchasers have embraced HMO's because they are generally regarded as saving money, and the evidence seems to support this theory. But as Luft(63) notes, reasons for cost saving are difficult to evaluate because HMO's are so varied and their saving may be due to unique features rather than those common to all HMO's. Random studies of cost effectiveness are few, and most studies of cost saving have been limited to hospital care and to the large and well established plans.

Despite these data limitations, however, in general prepaid group practice HMO's are credited with reducing costs between 10% and 40% over those of comparably insured fee-for-service populations. IPA models do not do as well, since the financial risk sharing incentives are not as strong and since IPA physicians treat a majority of non-HMO patients. In one of the few randomized and controlled HMO cost studies, Rand researchers found 25% lower costs for enrollees of a prepaid group practice than for a fee-for-service control group.(66) Despite these lower costs, however, a 25-year review of HMO cost experience showed that HMO's have not substantially reduced the rate of growth in health care costs or altered national patterns of medical care inflation and resource use.(64) This is partly due to low levels of HMO market penetration, but even in areas known for active HMO competition, there has yet been little overall cost reduction. Furthermore, reducing hospitalization has lowered HMO's costs but not the rate at which they are growing.(64) Luft disagrees with such experts as McClure who cite lowered costs in Minneapolis(21) and states categorically that "there is no evidence that massive HMO enrollment has resulted in overall cost containment."(63) With the potential for increased competition in health care, however, in the future HMO's may spur reductions in the overall rate of health care growth.

HMO's pay the same prices for inputs as other health care providers and have not been shown to have greater economies of scale, more use of nurse practitioners, or cheaper hospitalization due to owning hospitals. Instead, lower HMO costs are due to reductions in utilization, primarily hospital admissions, which according to the Rand study were 40% less than those of the fee-for-service population.(66) In general, Luft found that prepaid group practice HMO's had 30% fewer hospital days while IPA's had about 20% fewer days, due mostly to admissions and only partly to length of stay.(63) HMO's appear to provide more ambulatory benefits, but their costs do not completely offset the cost savings from reduced hospital days.(63, 66)

In attempting to discover how HMO's lower their hospital admission rates, Luft suggests that it is not due to more preventive care, enrollment of healthier subscribers or those pre-disposed against hospitalization, fewer discretionary surgeries, or lower quality of care.(63, 64) He does not, however, hypothesize an alternative explanation. The Rand study, on the other hand, found more preventive visits among the HMO population than the fee-for-service plan. Its authors conclude that since health risks were mixed through the random selection study process, lower hospitalization rates must be due to conservative practice styles: delaying hospital admissions and other services.(66, 86)) Reidel compared federal employees enrolled in an HMO and in a fee-for-service plan and found similar cost differences due to less hospital use. Since lower hospitalization could not be explained by out-of-plan use, demographics, or different levels of illness, he attributed it to more conservative practice patterns and delays in decisions to hospitalize.(86) Practice style differences could be inherent in physicians who work for HMO's or perhaps instilled in them through the risk sharing incentives or utilization controls used by those organizations.(65) Certainly HMO physicians who are salaried or paid per capita rather than fee for service have no personal financial incentive to hospitalize patients since they are not paid for the hospital visit.

Public and private purchasers have mixed experience with HMO's. Some feel that they save money, while others criticize their adverse selection or profiteering. Wisconsin's state employee health plan has recently contracted with HMO's and pays a rate at the level of the lowest bid in order to discourage profiteering. The state reports that in the program's first year, HMO's have significantly lowered rates of hospital admissions and hospital days per capita.(62) On the other hand, Ohio has experienced considerable adverse selection, with apparently healthier employees opting into the lower premium HMO's. Forty percent of Ohio state employees are enrolled in HMO's, most of which are non-federally qualified, so they can offer smaller benefit packages and lower, experience rated premiums. The less healthy population has remained in the state's fee-for-service plan, whose costs are escalating rapidly.(78) But some HMO's argue that they receive less healthy subscribers attracted to their comprehensive care and have trouble remaining fiscally stable.(7, 89)

Some private sector providers also question whether HMO's are cost saving devices. The HRI surveys of large employers show that they collectively estimate a savings of only 2.4% in 1983 compared to 8.5% savings in 1981 (the only cost containment activity that sustained such a drop in estimated savings).(51) HMO's are accused of setting rates just under prevailing Blue Cross or commercial rates. Unlike insurance carriers and Blue Cross, HMO's in Colorado are exempt from the requirements of

offering mental health and alcoholism care, newborn care, and home health and hospice benefits, and some HMO's do not offer the same scope of these services as insurance carriers. It is unclear whether rates for the HMO's not offering these benefits reflect lower costs. The editor of Business and Health reported recently that while private firms generally support HMO's, some feel that the requirement of "community" (service area) rating for federally qualified HMO's results in windfall profits when the organizations enroll healthy people and yet the HMO's do not have to lower their prices according to enrollee utilization experience. Honeywell, for example, with 70% of employees enrolled in HMO's in Minneapolis, estimates losing between $4 and $5 million to HMO windfall profits. The rapid growth of proprietary, non-federally qualified HMO's may respond to this problem, since they may experience rate. Some employers are also trying to negotiate lower rates based on recent federal law amendments that allow HMO premium differentials for age, sex, or family composition, but their precise legal latitude is unclear.(55, 60, 122)

Because HMO's have been greeted with such hope for major cost containment, they are extremely controversial. They pose certain advantages: considerable cost savings from reduced hospitalization, although no apparent reduction yet in inflation rates; the potential for inducing competition among organized systems, which simplifies the consumer's decision in the marketplace to buying a system offering preferred services (rather than having to shop for individual services when needed) (See Section VIII); quality of care apparently at least as good as in the fee-for-service system; and a high degree of patient and physician satisfaction, (though HMO's are not without their critics.)(29)

On the other hand, HMO's are a vast array of different organizations, which makes evaluation difficult and harder as for-profit groups emerge; they do restrict freedom of choice, though IPA models do so less; benefit design and premium flexibility are compromised by federal law requirements; some HMO's have experienced severe financial problems; and adverse selection out of HMO's can result in windfall profits to them and losses to purchasers.

Since purchasers must offer federally qualified HMO's if they exist in their service area and solicit their employees, they may have no choice but to include them. However, purchasers should consider whether to promote HMO enrollment and encourage competition among multiple HMO's as part of a conscious cost containment strategy. Analysis of enrollee HMO enrollment, costs, and use would be appropriate to determine whether adverse selection and profiteering may be occurring within a purchaser's enrollee group.

Current federal HMO law changes were designed to provide flexibility for rate setting based on factors, such as age, that predict use of health care.(122) HMO's may calculate rates according to the number of persons in each group that are in higher cost classes, but must still charge each group a single rate and cannot experience rate (set the rate according to the individual group's actual health care use.) Purchasers should set rates no higher than the lowest premium a fee-for-service plan or HMO will charge in order to induce some meaningful price competition for subscribers among plans. SEOGIB's current $57 contribution to the individual premium, which is below the premiums of all the plans it offers, should provoke competition and also make employees more prudent consumers.

Purchasers should also consider whether to contract with non-federally qualified HMO's. Little evidence is currently available on their quality of care or financial stability. More competitive premiums are attractive, yet purchasers must assure that they provide a minimum benefit package that can meet basic employee needs. In view of the great interest in HMO's and their potential for cost containment and competition, purchasers should watch for further research and performance evaluation.

B. Preferred Provider Organizations

Compared to PPO's, HMO's look like a single, clearly defined organizational structure. Preferred Provider Organizations, a new and popular concept, can be loosely defined as organizations offering price discounts for services of various providers, usually hospitals and/or physicians in exchange for increased patient volume and faster claims payment. Since PPO's are not legally regulated in Colorado, they have no precise definition, but they exhibit the following elements: a limited panel of physicians or hospitals (or a combination); a negotiated fee schedule, usually discounted by 5% to 20% below customary fees; a financial incentive for patients to use participating providers (reduced cost sharing or additional benefits); and some form of utilization control.(42) However, within this general framework, PPO's vary considerably.

PPO's are either organizations or contractual arrangements between providers and insurers. Unlike HMO's they do not bear the insurance risk. Sponsors are typically physicians or hospitals (which operate half of existing PPO's), but can also be insurers, employer trusts, third party administrators, and union trusts. They are attractive to health care purchasers because they seem to hold the promise of lowering health care costs, to providers because they offer patient volume and quick payment without financial risk, and to consumers because, at least compared to HMO's, they do not restrict freedom of choice.

The development of PPO's responds to purchasers' concerns over cost containment and interest in competition to reduce health care inflation. It can also be explained by excess hospital capacity and physician supply (e.g., in the Denver metro area) that weakens hospitals' and physicians' bargaining positions. And it may be attributable to providers' desires to compete with HMO's but retain fee-for-service practice.

Discount fee arrangements are not in themselves new, since Blue Shield plans have offered "discounts" through participating physicians for many years. Similar programs have also been sponsored by union and employer trusts and by Foundations for Medical Care.(42) The widely publicized California Medicaid hospital bidding program is one form of discounting. Deere and Co. is beginning to negotiate per case and per diem rates with individual hospitals. Discounts can be illusory as cost containment devices, however, since their savings depends upon the "usual" fee that is reduced, and such "usual" fees can be raised or averaged so that discounts produce little real overall saving.(8)

However defined, PPO's are emerging rapidly. From 35 identified in 1982, there were 143 operational PPO's in December 1984.(42) California has led the PPO movement with 49, while Ohio has ten and Florida and Colorado each report seven. Colorado has the single largest provider-sponsored PPO,

Mountain Medical Affiliates, with 200,000 members, while Blue Cross/Blue Shield of California has the largest PPO with 500,000 members.(1) Although they have enlisted a large share of the provider community in the states where they are active and have generated interest among purchasers, PPO's have been less successful in enrolling patients. In California, for instance, where over half the state's physicians participate in PPO's, only 35% of San Francisco physicians, 11% of those in Los Angeles, and few elsewhere in the state reported seeing any PPO patients in 1983.(1)

The Colorado Department of Labor and Employment has undertaken a one year pilot project for workers' compensation cases under the auspices of a PPO-type organization at Rose Medical Center. Employees in five state agencies will use the Rose hospital and clinics for primary care and Cherry Creek Associated Physicians for specialty referrals. The state Compensation Fund receives price discounts for hospitalization, case management, and specialty referrals.

There is as yet no concrete evidence that PPO's save money; in fact the only scientific study of PPO costs showed a cost increase greater than the medical care inflation rate in the surrounding area. Cost reductions from lowered hospital utilization were more than offset by increases in outpatient visits and ancillary tests; the organization under study had no utilization review system.(42) Anecdotal support for PPO cost savings comes from employers using them, however. Stouffer's claims a cost reduction of 23% in one year over projected costs due to a PPO with no discounts but with provider incentives and utilization controls.(34) And the Dade County Florida school system also attests to PPO success with benefit costs increasing only 3.6% in 1983 compared to the medical care inflation rate in the county of 12% during the same period.(35)

Preferred Provider Organizations have the advantage of rewarding low cost providers. And since PPO's retain the freedom of choice of the fee-for-service system and yet provide a delivery structure, they can help consumers be more prudent purchasers without totally restricting their choice of physician.

On the other hand, PPO's have not yet proven to be cost-effective. They contain no financial incentives, such as risk sharing, for providers to control costs, and by retaining fee-for-service payment they provide incentives to increase costs by increasing volume. PPO's have been accused of being catchy marketing tools to attempt to retain declining patient share. It is unclear whether the PPO discounts represent real efficiencies and conservative practice styles or whether they result in cost shifting to other payers. PPO organizations generally have not exercised much control in selecting participating providers and have not adopted comprehensive mechanisms to review utilization and quality.(42) (Colorado PPO's apparently do use pre-admission review, second opinion programs, and concurrent hospital review.)(54) Like HMO's there may be a problem of adverse selection; PPO's that offer lower prices may be attractive to healthier individuals who need less care, compared to competing plans that will then experience higher costs. Finally, PPO's can be anti-competitive if they are provider-sponsored and have a very large share of the provider market. A threatened anti-trust challenge to a PPO in California (where about 70% of local physicians enrolled) led to its demise.(42)

In view of the nascence of the PPO movement, purchasers will want to investigate them seriously but keep in mind the following issues: whether the sponsoring agency is structured to provide access to needed care and control use and quality;(8) the comprehensiveness of the utilization control process; whether the provider payment arrangements are designed to promote efficient service delivery or increased volume; whether the organization has an effective management information system for reviewing utilization and provider practice; whether savings are real or shifted; whether adverse selection is driving up overall purchaser costs; by what standards the PPO selects and terminates providers and how many providers participate (too large a group affords less cost control and could be anti-competitive, while too small a group may not be sufficiently attractive to patients); whether it offers health promotion and health education activities; and whether the organization is administratively stable.

It is likely that some fledgling PPO's will disappear as did some early HMO's. Although not an insurer whose demise would impose the same total financial risk upon purchasers, a PPO's termination would be costly to an employer and inconvenient and possibly costly to enrollees as well. PPO's should therefore be chosen with care and their performance monitored closely.

VIII. CONSUMER CHOICE

It is often argued that a major reason for the precipitous rise in health care inflation is that consumers have no incentives to be prudent buyers of health care. The existence of insurance, especially first dollar coverage, insulates consumers from the real costs of care they seek. Other factors that contribute to the lack of prudent purchasing are: the technical nature of the health care product and the primary role of physicians as gatekeepers who must prescribe or refer patients to most treatment. (Physicians are responsible directly or indirectly for about 70% of health care costs.)

While the health care market cannot, therefore, function as a classic competitive market, recent studies show that utilization can decrease when people must share in its cost or share in cost savings. In order to promote consumer involvement in the decision to purchase health care, employers can use a variety of approaches, such as offering a choice of health plans with different benefits and different costs, imposing certain types of cost sharing, such as coinsurance and deductibles, or providing bonuses for lowering use of services. As discussed in the section on utilization review, some of these strategies do not control systemwide use and cost of care but merely shift costs to the enrollee, which may not serve the purchaser's broader interest in employee relations or reduction in overall medical care inflation.

A. Employee Cost Sharing

The traditional private sector pattern of "first dollar coverage" health insurance (no deductibles or coinsurance) is changing rapidly in Colorado and throughout the U.S.(77, 120) Increasingly, employees are being asked to share in the costs of health care through paying deductibles, copayments, or part of the premium for themselves and/or dependents. Some small firms offer employees the opportunity to buy insurance at group rates but pay none of the premium.(98)

Requiring employees to share in the premium, a feature of multiple plan programs, described below, will save costs to the employer by shifting them to the employee. Such a requirement may instill in employees some awareness of the increase in health care costs as premiums rise but unless the employee opts not to take the insurance at all, premium sharing will probably not reduce utilization. In fact, premium sharing may provide a subtle incentive for a consumer to use health care, having "paid for it." (This may be the unintended effect of the current federal proposal to tax as income the first $10 of health insurance benefits.) Premium sharing can, however, be useful in multiple plan offerings to provide real economic choices among different plans with different costs. One-third of the metro area employers in the Mountain States Employers' Council require employees to pay some part of their insurance premium.(77)

Deductibles and copayments are more likely than premium sharing to have a direct impact on use of health care services. A deductible is an amount, usually a fixed sum but sometimes a percentage, paid by the insured patient for care before the insurer will pay for any services. Copayment generally refers to a fixed dollar amount of payment that the insured pays to the provider at the point of each service. Coinsurance is a term often used for

a percentage of the provider's charge that the insured pays at the point of service, but in this report coinsurance and copayment will be used interchangeably. The insurance plan pays the portion of charges beyond the copayment. Most plans contain a maximum out-of-pocket limit or "stop loss" beyond which the plan pays 100% of the costs. Another cost sharing approach is the indemnity plan, which pays a fixed fee per hospital day or other service, requiring the insured to pay the balance. Indemnity plans are primarily mail order or individual insurance policies, rather than employment-based insurance.

The Rand Health Insurance Experiment tested the relationship between health insurance, health care use, and health status. In an 8-year study, over 7000 persons in six sites were placed in five health plans with from 95% (essentially full pay) to no coinsurance and varying "stop loss" provisions. The researchers concluded that total per capita expenditures increased as coinsurance fell; free care caused total health care expenditures to increase almost 50% over those with no copayment (due to an increased number of outpatient visits and inpatient admissions). They also learned, not surprisingly, that length of hospital stay was not affected by cost sharing. Utilization by adults was more likely to be affected by cost sharing than is utilization by children, due primarily to less childhood hospitalization.(80) Cost sharing also was shown to curb use of emergency rooms for non-emergency services.(121)

With respect to the effect of insurance on health status, the study concluded that except for small improvements in dental care for some age groups(2) and in vision and blood pressure, existence of free care had no impact.(14) Nor did free care and its concomitant additional medical care have an impact on risky health habits such as smoking or poor nutrition. Because the poor were protected against large cost sharing in the experiment and the elderly and disabled on Medicare were excluded, these results cannot be generalizable to the entire U.S. population or those subgroups*, but are useful in developing policy for the average, employed population. Furthermore, while the study is methodologically sound, its findings are premised on considerable knowledge by enrollees of the cost sharing provisions of their insurance. In general, consumers are not aware of the details of their insurance coverage unless they have just used it.(100) The Rand study not only educated consumers about their varying coverage but also monitored their health care use. It is likely that these enrollees were therefore much more sophisticated consumers than the average U.S. employee and that this sensitivity to price is not typical of other consumers.(114)

Although some private employers continue to offer first dollar coverage, few states do so. Only about 10% of the metro area members of the Mountain States Employers' Council impose no deductible, and a similar percentage impose no coinsurance.(77) All of the states whose employee plans were reviewed for this report (Colorado, Florida, Illinois, Kentucky, North Carolina, Ohio, Utah, and Wisconsin) require some copayment and deductible cost sharing. Large employers estimate saving over 6% in 1983 from each (although if both were used the savings could probably not be

* For a discussion of special problems in imposing cost sharing on the poor, see P. Butler, "Cost Sharing in A Medically Indigent Program," in Report of the Colorado Task Force on the Medically Indigent, Vol. 3, Background Research Papers p. 55, January 1984.

cumulated). State employee plans were unable to estimate savings. It appears that a small copayment curbs use significantly, while larger ones may not have much greater an impact. The Rand Study showed, for instance, that expenditures for persons with a 25% coinsurance were 14% lower than those for persons with no coinsurance, while expenditures for persons with a 50% coinsurance were 18% lower than those for persons with no coinsurance.(80) Looking just at the impact of cost sharing on emergency room use also showed that a 25% coinsurance had almost as great an impact as higher coinsurance payments.(121)

The advantages to cost sharing as a cost control device are that it reduces employer costs immediately (shifting them to the employee) and also reduces utilization, apparently without significant detriment to health. Another advantage is that it can be designed as an incentive, to enhance other cost containment strategies, such as the use of ambulatory surgery. Disadvantages to cost sharing are that, if not carefully designed, it can increase costs by creating perverse incentives (e.g., outpatient coinsurance and deductibles can induce more inpatient care.) Furthermore, for cost sharing to provide the desired incentives requires well informed consumers. Many consumers will not know about the cost sharing in their plans until after they have used the medical system. Unless illness recurs soon thereafter, consumers may not be educated by the existence of cost sharing to be more prudent shoppers. Absence of comparative price information also makes shopping difficult. And absence of indicators of medical care efficiency mean that cost sharing cannot induce consumers to shop for efficient providers. A major disadvantage to cost sharing is that it is often seen by employees as a serious benefit cut, particularly if they have fought hard to obtain first dollar coverage. As discussed in C below, there are some ways to ameliorate this employee relations impact of cost sharing without losing the employer's entire cost containment benefit.

Issues to consider in designing a health plan's cost sharing feature are: how to avoid a bias toward inpatient care; how not to discourage needed and cost effective preventive care, such as prenatal care, well child check-ups (they could be exempt from cost sharing); how to integrate cost sharing with positive incentives for consumer behavior; how to educate enrollees about their plan so that they can be more prudent purchasers and avoid adverse reaction to plan changes; whether to graduate copayment or deductibles by wage levels to create a more consistent impact upon all consumers(53, 99) and how to avoid disincentives for efficient health care use by high cost users, who pose a special problem.

Regarding high cost users, 95% of insured Americans have expenses under $5000 per year, but the remaining 5% with annual per capita expenses over $5000 generate half of all annual health care expenses due to very costly illness involving hospitalization and extensive use of physician and other professional services.(25, 113) By themselves, current cost sharing approaches do not limit use by this population. The Rand study indicates that inpatient coinsurance and the $1000 "stop loss" did not affect length of hospital stay, but if an analysis of a purchaser's claims reveals high cost cases or persons at risk of being such cases, cost containment strategies, including discharge planning (described in section VI) and cost sharing, could be designed to address those special cases.

B. Multiple Health Plan Choice

A market-oriented strategy for containing health care costs cannot rely exclusively on consumer cost sharing at point of service to induce prudent purchasing behavior. Consumers may not know about their cost sharing or may be unable to obtain adequate comparative price and quality information. Allowing consumers to choose among competing health plans that offer various services for different prices (premiums) and in whose cost the consumer must share offers one of the greatest opportunities for true prudent purchasing.* As discussed in Section VII, alternate health providers such as HMO's offer considerable promise in controlling utilization and saving overall system costs. One or more alternative systems, therefore, should be part of a multiple plan choice program, along with at least one traditional indemnity or service payment plan.

Multiple plan offerings are still limited among both the private and public sectors. In 1977 82% of insured persons had no choice of plan. Two-thirds of firms with a choice offered only one HMO.(39, 105) The federal employee health insurance plan has offered multiple coverage for several years(86) as has Colorado's SEOGI Board. Minneapolis, with six HMO's(55) is widely regarded as the center of health plan competition. But even in this community or in other states with active HMO development, no studies yet demonstrate unqualified cost savings from health plan competition, and there are no hard estimates of likely savings.(60, 63)

Offering multiple choice among health plans has the advantage of relieving the employer of the need to choose a single plan and of allowing enrollees to select a plan best meeting their health care needs, price, and delivery system preferences. Such choice may also lead to competition and possibly to lower systemwide cost savings. On the other hand, offering choice is more administratively complex for purchasers.(53) Furthermore, too wide a variety of choice makes meaningful comparison and prudent purchasing by enrollees very difficult. It is also unclear whether people will willingly change physicians during an annual open enrollment period by changing plans.

One recent study of selection and plan switching among two dozen plans available to federal employees suggests that consumers will choose a health plan rationally, based on their anticipated use of health care.(92) For instance, employees switched between high and low option fee-for-service plans based on expected future need for care, which increased the poor risk selection of the high option plan. The study authors found that employees attempted to retain plan benefits while lowering their premium contributions, although it is unclear whether lower premiums reflected more efficient plans or better (healthier) subscriber risk. While the federal employee benefit plan seems relatively stable over its 20 year history and the effects of adverse HMO self-selection in that program appear to diminish over time, the authors believe that risk segmentation, the separation of high risks into some plans and low risks into others, is inevitable in a

* It should be noted that for public program beneficiaries, such as Medicaid recipients, the choice to enroll in an HMO or other delivery mechanism does not offer the same economic incentives since beneficiaries do not pay for HMO or fee-for-service coverage. The absence of copayments in Medicaid HMO's provides some incentive to enroll with them.

multiple plan choice program and may negate the benefits of competition if relative riskiness of enrollee groups diverges sharply. In addition to disrupting the stability of certain plans, adverse selection can raise overall purchaser costs.

Adverse selection occurs when a larger share of high cost users than would normally exist in a population enrolls in a plan. This raises the costs higher than anticipated when premiums were set and causes deficits and premium increases in succeeding time periods. Adverse selection can be a serious problem for insurers such as federally-qualified HMO's that are required by law to "community" rather than "experience" rate their premiums; they must work from average experience and cannot anticipate a maldistribution of costly users. (Conversely, HMO's enrolling healthy subscribers can benefit from community rating.) Adverse selection becomes a problem when a less comprehensive and less costly plan is offered along with more comprehensive, more costly one. If the purchaser contributes no more than the cost of the cheapest plan, persons expecting not to need to use a plan due to good health will have incentives to choose it, while persons anticipating the need to use more care will probably choose the high option plan. The federal employees benefit plan study illustrates this behavior.(92) The high option plan will become more and more costly as sicker consumers use care and healthier consumers leave the plan due to premium increases. States with multiple plan choice for state employees have experienced this problem, which is even more acute because the indemnity plan remaining with high cost cases is often self-insured.

The adverse selection phenomenon creates two problems. It perverts to a large extent the premise of community rating (broad sharing of risk without reference to individual or group experience) on which group health insurance is structured. Furthermore, unless employers always pay no more than actual cost of the cheapest plan, the plans that receive the healthy enrollees may be gaining a windfall.(55, 60) Wisconsin, for instance, paid a premium set by statute for its employee plan; when it first adopted a multiple plan choice program the rate was higher than several HMO's would have charged for state enrollees, and the state would have paid more than their cost (while also experiencing the rising costs of the disproportionately sicker group remaining in the fee-for-service plan). The state law now limits the state's premium to the lower of 105% of the premium of the lowest cost plan or 90% of the premium of the fee-for-service plan. Due to participation by five HMO's, the state anticipates a first year savings from multiple plan options of $8 to $10 million, about 10% of its claims costs.(62)

In designing a multiple plan choice program, purchasers must pay a premium that is no higher than the lowest cost plan in order to avoid a windfall. (SEOGIB currently pays $57 for individual coverage, which is lower than premiums of any of its plan. Even at this price, due to the community rating requirements of the federal HMO law, there is some question whether SEOGIB HMO's are reaping a windfall of revenues over the cost of their state enrollees.) Furthermore, to avoid the deleterious effects of adverse selection, purchasers could vary their premium contributions to reflect differences in enrollee risk, specifying a minimum benefit package for all offered plans, or exercising more oversight and control of premiums.(92) Other issues to consider in adopting a multiple plan strategy are how many plans to offer (a large number is confusing for consumers(114)

and cumbersome for the purchaser); whether subscribers are likely to change plans according to price or other factors; whether to require a basic benefit package for all offered plans to simplify understanding and comparability; and how to educate employees on the plans and the potential for prudent choice.

C. Bonuses or Rebates for Lower Plan Use

Most cost containment strategies attempt to affect consumer behavior by imposing negative incentives, such as no payment for disfavored services. Such approaches may, however, create employee resentment and diminish the cooperation necessary to assure that health care cost containment really works. To avoid this problem, some public and private sector purchasers use positive incentives, such as cash or service bonuses for reduced utilization. If carefully designed, these approaches can save purchasers money and share some of these savings with consumers as a reward for reducing health care use. A disadvantage to this approach is that under current IRS rules, cash bonuses are taxable as regular income.

Numerous public and private sector employers have piloted programs that grant a cash or extra health service bonus to consumers who use less than a fixed number of hospital days or other unit of service. Since maternity visits are often 2-3 days longer than needed, a popular program is a bonus for mothers leaving the hospital within one or two days of normal delivery. Kentucky, for instance, pays the mother $125 for one-day discharge and $75 for two-day discharge, in addition to free home health care visits for early discharge.(78) In the first quarter of 1985, 5% of delivering mothers received the 24-hour bonus and 30% received the 48-hour bonus, for an estimated net savings to the state of over $12,000. North Carolina pays for the child's first newborn visit and immunizations.(78) Oregon has a similar program(17) Although this strategy seems likely to generate several hundred dollars in net savings per maternity admission (a 1:2 to 1:3 cost-benefit ratio), it appears not to be much used and therefore is not reducing costs as much as might be expected.

Other types of bonus programs are not prevalent. Utah pays $50 for each hospital discharge whose length is less than the statewide average length of stay for the diagnosis and also pays a cash bonus for obtaining a second surgical opinion.(78) Generally, these programs can improve health, by shortening hospital stays, and promote cost consciousness among physicians and patients. They may meet physician resistance, but should be designed to apply only when the physician has approved the early discharge. Low participation rates may reflect active consumer choice or ignorance of the program.

In considering adoption of a bonus program, purchasers should determine the types of services (probably hospitalization), where utilization could be reduced. Bonuses should be designed to be meaningful and provide a real incentive to reduce use, without eliminating overall plan cost savings. Finally, employees and providers must be educated to the existence of the bonuses in order that they accept and take advantage of them.

Another type of bonus plan is a "wellness fund," into which the purchaser puts a given sum for each employee, e.g., $500 per year, from which employees can pay the deductibles and coinsurance for their insurance

plan. This approach is often called a "Mendocino Plan" after the northern California county school district that has pioneered the concept and reported a 15% decrease in utilization its first year.(46) A similar experiment in several counties in Florida, however, was not successful, since the plan experienced considerable adverse selection. When allowed a choice of participation, the healthy consumers enrolled in the wellness fund and having no claims during the year, received large bonuses. The non-fund population with higher use experienced higher premiums, so the two programs cost the employer more than the previous traditional plan.(117)

In 1983 Quaker Oats adopted a Mendocino type plan called the Health Incentive Plan with a $300 deductible insurance plan and a $300 incentive fund to pay the deductible or be returned in cash to employees at the end of the year. The incentive fund was indexed each year to inflation. Since the fund was designed to reduce costs by allowing employees to be prudent purchasers, it was accompanied by an employee education program to assist in purchasing decisions. Through this plan, the firm's medical costs increased only 5.6%, compared to expected increases of 20% the first year.(82)

Funds remaining in the wellness fund at the end of the term were originally rolled over into the next year or paid in cash to the employee; but recently adopted tax code and regulatory provisions(116) prohibit carryover or cash payments in employer-sponsored plans that became effective after February 10, 1984. (Even the favorable tax treatment for existing plans was to expire July 1, 1985.) These IRS rules diminish considerably the effectiveness of this strategy. Believing that wellness funds could potentially help lower medical care cost inflation, Congress requested that the IRS and the Department of Health and Human Services study this issue.(124) In a recently issued report, HHS disagreed, citing a cost of $12 billion per year of flexible spending accounts and finding that they were "unambiguously adverse" to health care cost containment.

Under current law it is unclear whether the Mendocino plan incentives are significant enough to reduce utilization. Employees can use the fund to pay for health care costs incurred during the year but cannot collect the balance in cash at the end of the year or roll it into the following year, so there is less incentive to spend carefully or reduce utilization. If the tax law were changed to allow this strategy, purchasers could consider adopting it as a complement to an insurance plan and as part of an overall program to encourage employees to be more prudent purchasers. A major problem with the plan is that it will reward existing low users (who apparently don't need the incentive), and yet may not have much of an impact on high cost users whose costs exceed the fund ceiling. Before adopting such a strategy, a purchaser should analyze its claims experience and determine how many employees use no care and how many are high cost users in order to predict the effect of a wellness fund on overall costs and behavior.

A variation on these approaches is an employer-paid bonus, such as Mobile Oil's, to employees in a subgroup whose claims fall below an anticipated level based on its previous year's experience. Each month that actual costs are less than anticipated costs, employees are credited with a bonus, which is paid as a taxable benefit at the end of each year. If actual costs exceed expected costs, the employees pay the difference.(24)

IX. HEALTH PROMOTION AND CONSUMER EDUCATION

While controls on benefits, utilization, and providers may save medical care costs, it is generally believed that costs can be avoided by maintaining health through education, detection and early treatment of disease and healthy lifestyles. The leading causes of death (cancer, heart disease, and accidents) are largely attributable to unhealthy behaviors related to smoking, poor nutrition, lack of exercise, lack of seat belt use, and abuse of alcohol.(40, 45) Health benefits purchasers have become interested in assisting consumers in reducing the risk factors associated with unhealthy behaviors (through health promotion activities) and other predisposition to illness (through screening for and treatment of unsuspected conditions). There is no doubt that such programs generally help employees to be healthier, feel better, and probably be more productive and happier. It is more difficult, however, to justify health promotion, screening, and educational activities as cost containment strategies.

As described below, some programs, such as hypertension screening and control and smoking cessation, may have demonstrable cost savings if carefully designed. However, most health promotion programs are hypothesized to have fairly long-term rather than immediate payoff, and few studies have satisfactorily measured the direct and indirect costs and benefits attributable to such activities. (A long-term cost to employers of healthier and longer-living retirees, for instance, is a larger pension bill; people living into their 80's and 90's are more costly to society and their retiree health plan, since they currently consume more medical care than persons dying in their 60's and 70's.) In particular, there are very few studies of workplace programs, as opposed to health management programs in the clinical setting. Furthermore, prevention or promotion programs will be directed at a large population and may be more costly than the illness they are designed to prevent, if its prevalence in the population is very small. Where available, cost effectiveness data are presented, but it must be kept in mind that like all other cost containment activities, savings depend considerably upon individual program design elements and the baseline against which changes in consumer behavior and health status are measured.

A. Health Promotion and Wellness Programs

The concepts of maintaining health and wellness through lifestyle and appropriate use of medical care are not new,(45) but they have regained popular acceptance in the last decade. In the hope that such activities would reduce use of medical care and save health care costs, many private and some public sector employers have developed health promotion programs. These activities range from a fully equipped fitness center, to extensive employee assistance programs, to payment or time off to attend weight control or smoking cessation classes, to posters promoting blood pressure screenings. To meet the public interest in such programs, many health care providers and other groups now offer them. A leading analyst of employee health promotion notes that the types of lifestyle changes that promote health require varied motivation, interest, and attention and are therefore not equally easy to influence through a workplace strategy.(40) Below are examples of experience with the most common behavioral changes loosely categorized as "health promotion" activities.

Health hazard appraisals are used in worksite programs to identify risks of morbidity and mortality and assist employees in reducing or managing them. The risk appraisal itself is not likely to achieve change, but it helps motivate employees to enter treatment programs.(45) Appraisals appear only to be helpful if they are part of a follow-up program to interpret results and establish programs to manage or reduce the discovered risk. Several such programs have proven to be cost effective in detecting and treating hypertension, diabetes, glaucoma, and certain types of cancer.(45, 24) Little information is available on the cost saving from these programs, and it will certainly depend upon the prevalence and severity of the conditions screened for, the employee population's baseline health status, and the general community awareness of risk factors that may already contribute to reducing them. In a recent article Fielding suggests how employers should determine what conditions to screen for and cautions employers against problems in risk assessment programs.(41) Risk appraisals should be voluntary, and responses must remain confidential.(6)

Since 1983, the Colorado Department of Labor and Employment has conducted a risk screening program for its employees, which includes a health survey and information to each participating employee on his or her serious health risks and how to reduce them. After finding that between 5% and 25% of employees in DLE service centers throughout the state had elevated blood pressure, the department has adopted a program of hypertension control, along with programs for smoking cessation, wellness, and health insurance and purchasing education. The program is designed to be voluntary, non-threatening, and non-paternalistic. DLE is currently evaluating its program and believes that it has increased employee morale, communication, and productivity.

Smoking cessation programs are popular because the costs of smoking in health effects (absenteeism, accidents, and loss of productivity) are well recognized.(40) It is estimated that about 60% of current smokers have tried to quit, and since doing so quickly reduces health risks so that over time they are equivalent to those of non-smokers, smoking cessation programs should be attractive to employees. Annual workplace costs of smokers are estimated to range from $200 to $500 (1981 dollars), while cessation programs cost as little as $100 to $200 per employee. When considering the fairly low success rate (20% to 30% after 12 months), however, the cost-benefit ratio of these programs is only 1.7 to 1 in the first year, so the costs would be recovered in about two years.(74) Some insurers provide non-smoker discounts for individual life and health insurance, but none so far for group health insurance, perhaps due to verification difficulties. As workplace smoking limits increase, such group discounts could become more available.

Having the employee share in the costs or improving the program success rate would increase the return on the employer's investment. Lotteries, cash bonuses, and lower health and/or life insurance premiums for smoking cessation are producing anecdotal evidence of success.(74) Workplace policies restricting smoking may not directly cause quitting but can reinforce and help maintain non-smoking behavior. Employee participation in classes is enhanced when employers pay for classes and time to take them; motivation is improved, however, when participants share in the program's costs.

Between 25% and 45% of Americans are estimated to be 20% or more over ideal body weight and they constitute 14% of male and 21% of female workers.(40) Obesity over 25% above ideal weight predisposes persons to cardiovascular disease and diabetes and therefore contributes to short-term and chronic illness and associated, unquantified health care costs. It has been difficult to achieve significant and long-term weight control in obese populations. The greatest problems in weight control programs are retaining participants and keeping lost weight off. Attrition rates range from 30% to over 50%.(40) Costs of eating behavior modification programs range around $10 per week, usually for a 12-week course, and it has been estimated that it costs an employer from $8 to $24 to reduce each participant's weight by one percent through organized programs.(15) Although these group activities are not likely to save employers money due to drop outs and recidivism, there is some evidence that competitions among or within firms lead to longer term sustained weight loss and cost only about $3 per 1% weight lost.(15)

Only about 1/3 of Americans exercise regularly, although exercise does lower the risk of caridovascular disease.(40) Participants in workplace fitness programs or fitness promotion have been shown to have lower risk factors (from smoking, hypertension, cholesterol, weight) than non-participants, but not necessarily reduced incidence of disease. Furthermore, fitness programs may not lower risk factors, since participants have lower risk factors to begin with than non-participants; there is a strong self selection bias that makes it difficult to determine the impact of such programs on those risk factors.(40) One study of compulsory fitness programs among firefighters showed reduced diastolic blood pressure and serum cholesterol but not weight.(3) And fitness programs seem to reduce absenteeism modestly but have not been proven to reduce health care use, costs, or insurance premiums.(40) Like other lifestyle change programs, it is difficult to obtain initial participation in fitness activities and adherence to the regimen. Employers can increase participation by enhancing convenience of the programs through geographic proximity, scheduling, variety of activities, and support by top level and immediate supervisory management. Apparently no cost-benefit analyses have yet been published evaluating fitness programs. Program costs vary according to the extent of the activity (operating a fitness center vs. paying part of a local health club membership), and benefits are as yet impossible to quantify. Considering the scant evidence on the impact of fitness programs on health care costs, it seems reasonable for employers to offer them to improve employee morale and self-image but not to assume they will lower health care expenditures.

Hypertension is experienced by at least 15% to 25% of American workers and contributes to coronary artery disease, stroke, and congestive heart failure.(40) Because high blood pressure is asymptomatic, screening is necessary to diagnose it. Once detected, hypertension is easily controlled with combinations of medication, diet, and exercise, so screening and follow-up to assist in management are critical to controlling the problem. Studies of hypertension screening and control programs show a high rate of success at lowering blood pressure to acceptable levels.(40) Cost-benefit analysis is more advanced for hypertension programs than for other risk management programs and suggests a ratio of 1:2 to 1:4(59) although these studies do not measure all relevant indirect costs and may exhibit other methodological problems.(95) Workplace screenings and treatment clinics

conducted by nurses seem to have a higher rate of success than community care from private physicians.(40)

Assisting employees in identifying and reducing stress has also become a popular health promotion program. Most such activities attempt to change behavior by instruction in stress management and stress reduction techniques. Studies find that such programs reduce absenteeism and physiological and psychological indicators of stress.(93) No methodical cost-benefit analyses of these programs have been conducted.

Employee Assistance Programs (EAP's) have existed in the workplace for several decades. Designed to help employees with poor job performance resulting from personal problems, EAP's were initiated to assist problem drinkers and evolved to cover an array of employee problems: alcohol, drug, financial, familial, or legal. Numerous studies of the alcohol rehabilitation programs conclude that they are cost effective by reducing medical care use, sick days, and accidents, but the study methodologies are limited and benefits have not generally been compared to costs.(11, 56, 101) As discussed in Section V.G., covering mental health and alcoholism treatment in health insurance plans also appears to reduce use of medical care but not necessarily overall health insurance costs.

In general, programs to reduce risk factors by promoting "high level wellness" and preventing disease are popular but with a few exceptions cannot currently be proven to save health care costs. In fact, a recent survey of Fortune 500 companies places wellness programs at the bottom of a list of cost containment strategies ranked in order of perceived effectiveness.(118) Johnson and Johnson has a comprehensive health promotion program that is designed as an integrated process containing several activities that form part of a larger corporate strategy and includes targeting, marketing, and feedback to employees and managers. The program is well received, but no information on its cost effectiveness is yet available; an evaluation is in process.(104) FMC Corporation has recently begun a similar program, as part of a broader cost containment activity.(107)

Given the difficulty of establishing a positive direct cost-benefit ratio for health promotion programs, Fielding suggests:

> A possibly better way to approach the issue of return on investment in these programs is to compare cost with effects. What is it worth for a company to reduce the number of heart attacks per 1000 male employees from ten to six? What is it worth to reduce the chance of an employee getting lung cancer from 1/200 per year to 1/2000 per year? In most cases employers will feel that their interest in the health of their employees justifies a significant investment to achieve this type of reduction, regardless of whether their [financial] return will be higher than their average annual return on other invested funds.(40, 119) [emphasis added]

The advantages to a health promotion strategy are that if properly designed, it can improve health and employee morale and can demonstrate to employees that employers are interested in their wellbeing, a substantial, but unmeasurable benefit. On the other hand, with the exception of a few

programs, cost savings may be difficult to assure and some employees may resent the employer's intrusion into his or her lifestyle, even through voluntary programs.

Issues to consider in designing a health promotion program include: what are the employees' likely risk factors; what programs could most directly address those risk factors; should programs be on- or off-site; should employees share in their costs; how can broad participation in health promotion activities be assured; how can maintenance of any lifestyle changes be improved; how can baseline information be collected and a credible evaluation of any program be conducted?

B. Consumer Education

It is obvious that consumer education is the keystone of a successful worksite health promotion program, since employees need to know about risk factors and their meaning as well as how to avoid or manage risks to which they are subject. But consumer health education in the workplace should include a broader agenda. First, it should contain a thorough but understandable explanation of the health benefits plan and its limitations. Furthermore, health care consumers need to know more about the health care delivery system, how to be more prudent consumers (if not direct purchasers) of health care, when self-care is appropriate, and how to be good patients by following medical regimens.

To reach a large audience, consumer education about health promotion activities can be provided through employee newsletters and posters, but it is most effective when provided through seminars and oral presentations. Personal contact is especially important at the beginning of a program; once it is established, written publicity is often sufficient for continued participation. Health promotion programs work best if they are part of a larger corporate strategy on health management: top level and supervisory management must solidly back and participate in the overall program, and health education should be integrated into the firm's general employee education process.

Consumers generally lack knowledge of the details of their health insurance.(100, 114) As benefit design becomes more complicated with cost containment changes, consumers will have greater difficulty in keeping track of their coverage. Most of the current cost containment strategies used by purchasers rely to some extent on consumer knowledge of their benefits and on economic incentives to consume prudently. In order to discuss ambulatory surgery or home health care with his or her physician, for instance, a consumer must know that it is a benefit for which certain incentives exist. In order to consider seeking a second surgical opinion, one must know that it is reimburseable and the consequences of failing to obtain it. In order for the economic incentives of cost sharing or bonuses for lowered plan use to apply, enrollees must know what they are. Informing enrollees about their health insurance benefits is a challenging and constant task. It is difficult to generate interest in health insurance before the need to use it arises. Yet unless enrollees are familiar with the plan, the most carefully designed cost containment strategies cannot achieve their goal of informed and economically driven choices. At a minimum, employers should provide personal meetings to describe key elements of the plan, such as benefit restrictions or recent changes, and written information (through

payroll stuffers, newsletters, and posters) to remind enrollees of plan features and whom to contact with questions. McCarthy has suggested that written materials communicate best when directed to the wife, even when she is not the primary insurance subscriber.(71) A more effective employee education program would include health care management staff who actively assist enrollees in using the health system and the insurance plan.(49)

Finally, consumers need to be educated about the health care delivery system and about how they can be more careful consumers of health care and better patients. For instance, effective ambulatory surgery requires that patients undertake more self care, such as pre-and post-operative regimens. Learning how to care for minor illnesses can reduce outpatient utilization and accompanying costs.(127) Public and private sector purchasers that have developed a broad cost containment strategy have recognized the importance of general health consumer information.(74) For instance, Quaker Oats provides employees with a consumer self-care booklet, a hospital price guide, and an in-house pamphlet describing patients rights and responsibilities and how to: choose physicians and hospitals, select alternative treatment facilities, obtain second surgical opinions, monitor hospital services, and audit bills.(82) The Oregon state employee plan and the Oregon League of Cities have developed a health care consumer handbook.(17) A simple and clear description of how health care is delivered and why costs are rising so quickly is necessary to help employees understand why their health plan benefits are changing and how they can play a pivotal role in restraining the growth of costs and taking responsibility for their personal health.

X. PLAN ADMINISTRATION AND CLAIMS PROCESSING

Achieving control over covered benefits and use of health care will have the most direct impact on medical care costs. Purchasers can also save costs by attending to the administration of their health benefits plans. Self insuring the risk, increasing control over claims payment, improving coordination of benefits, and getting the most from benefits consultants can lower the current 5% of health care spending devoted to administration.(53) While such cost savings will be small, they are important, since they can be accomplished without the employee and provider resistance that meets benefits and utilization controls. Large employers should also consider placing responsibility for coordinating the variety of health plan activities, such as benefit design, employee relations, workers' compensation experience, contract negotiations, and audits, into a single location so that one person or group coordinates all health care management tasks.

A. Self-Insuring

Within the last decade, an increasing number of employers have turned from the traditional purchase of insurance from a carrier that bears the risk of loss to self-insurance (also called self-funding). Colorado has many self-insured firms, and the number grows annually.(77) Self-insuring has the potential for cost saving, since purchasers can make interest on their premium reserves, do not have to pay premium taxes to the state or profit to a carrier, are exempt by federal law from state insurance regulation, and have more flexibility to design and change the plan to meet current needs. On the other hand, assuming the risk of health care costs is risky. Rates must be set carefully. It is very difficult for small employers to establish sound rates, and even a large employer's plan can be jeopardized by an unexpected catastrophic illness.

Self-insuring can take several forms. The purchaser can pay claims itself (self-administered program) or contract with a claims payment firm (ASO - "administrative services only" contract). Under either approach, the purchaser can limit its liability for costly claims by purchasing "stop loss" insurance for individual or aggregate claims. In a combination of ASO contract and stop loss (minimum premium plan), the carrier provides stop loss plus claims administration. SEOGIB has such a minimum premium plan as its fee-for-service plan option; Blue Cross pays claims and provides stop loss coverage.

Most self-insured purchasers report cost savings, which are greatest in the first year due to changes in cash flow and availability of interest income. Large employers estimated savings of 8% from self-insurance in 1983.(51) Others estimate saving at least 4% of claims.(17) Many state government employee health plans are self-insured and report cost savings; for instance, SEOGIB has been self-insured since 1978 and estimates a 6% annual saving. Louisiana reported saving 15% to 18% from self-insurance and self-administration, although that may be a first year savings.(17) North Carolina and Wisconsin all report earning more than enough on premium interest to pay for administrative costs of their self-insured plans.(17,78) Florida's interest income covers the costs of claims administration as well as self-insurance. On the other hand, Goodyear Tire and Rubber Company reports increased administrative control through self-insurance but no

significant cost reductions.(24) Cost savings from self-insurance depend upon claims experience meeting the expectations upon which rates were set. Anticipated savings from self-insurance of 4% to 8% can be quickly reduced by a small increase in unanticipated claims.

Advantages to self-insuring are the potential cost savings, greater control over the plan, including potential cost containment activities, and exemption from state insurance taxes and regulation (by virtue of the federal Employee Retirement and Income Security Act, ERISA). On the other hand, self-insurance by definition increases a purchaser's risk. Cash flow may be less stable since some months involve higher claims costs than others. Self-insured purchasers must become more involved in cost containment, since the administrative carrier has less incentive to promote cost containment activities when its risk of loss is removed. Self-insured and self-administered programs involve the employer in arbitrating consumer disputes over benefits coverage and claims payment. Although exemption from state insurance regulation is a benefit to the individual employer, as a public policy matter it eliminates important protections for consumers, such as minimum benefits and financial reserve requirements. Furthermore, state agencies other than SEOGIB are less able to reap the full benefits of self-insurance.

The SEOGI Board has express statutory authority (10-8-215, C.R.S. 1973) to retain interest income and savings from self insurance and other cost containment activities. The University of Colorado has similar budget autonomy due to its constitutional status. Any savings and income generated by other public agencies, however, must revert to the state General Fund. Although there are other advantages for self-insurance by public purchasers, this state fiscal requirement is a strong disincentive to do so.

Issues to consider in deciding whether and how to self-insure include: whether self-funding is advantageous if the purchaser cannot retain interest income; the purchaser's size and exposure from self-insurance (based on claims experience and use patterns of subscribers); whether to pay claims or contract for claims administration; the type of claims administration arrangement (including continued incentives for cost containment activities); establishing sound actuarial estimates for rate setting; whether to reinsure; and how to resolve subscriber claims disputes.

B. Coordination of Benefits and Subrogation

Due to the increasing number of two-wage households, about one-quarter of insured individuals are covered by more than one hospital insurance policy and one-fifth by more than one physician care policy. Most of this duplicate coverage is through workplace insurance.(19) Where employees have several plan options, and particularly where the employer pays all or most of the premium, employees have incentives to obtain and use duplicate coverage.

It is in a purchaser's interest to assure that a health care claim reimbursable under several policies be paid only once, preferably through the plan of another employer. Coordination of Benefits (COB) is a policy by which an employee's other insurance is investigated and, when possible, required to pay all or part of the claim. A similar concept of finding another payer responsible for a health claim is subrogation, under which a

payer may recoup payment amounts from a third party (such as the responsible party in an automobile accident). Colorado courts will not enforce subrogation unless the insurance contract expressly provides it.(50)

COB is required in group insurance policies by most state insurance laws, but as more firms self-insure, purchasers are becoming more interested in the policy and have recently begun to enforce it aggressively. Fewer employers include subrogation clauses in their insurance contracts. Some employers prohibit or discourage employees with insured spouses from participating entirely in the firm's plan.(57)

Cost savings from COB should be easily quantified, since a firm can calculate dollars paid by others on claims submitted to it. Large employers estimated a savings of 9.7% from coordination of benefits and 2.3% from subrogation in 1983.(51) Bethlehem Steel has recently tightened its coordination of benefits policy and developed a detailed data base on coverage of employees and dependents. The firm saves about 5% by coordinating benefits.(57) Other firms report savings of between 12% and 14%.(38)

State agencies that have pursued coordination of benefits also report savings. Louisiana estimates saving 16% to 19% of claims from an active COB policy.(17) Based on aggressive third party collection activities, Florida experienced savings of 1.6% of claims from subrogation and 4.8% of claims from coordination of benefits with workers' compensation and auto liability insurance.(17) State Medicaid programs are increasing their third party collection efforts under congressional pressure. A General Accounting Office report indicated that between 18% and 20% of Medicaid beneficiaries have other insurance coverage and that states could improve third party collections by asking more detailed questions on eligibility intake, matching eligibility files with unemployment insurance and other state records, and paying claims after deducting the expected contribution of other insurance rather than paying the claim first and then trying to collect from the carrier.(43) Colorado's Medicaid program estimated saving $20 million (out of a $320 million budget) from third party collections by employing the latter two tactics. Minnesota's Handicapped Children's Program has also saves considerable resources by being the last payer for those services and aggressively pursuing third party collections.

Advantages to COB and subrogation are that they save a purchaser money and distribute costs among responsible parties. Except where duplicate payments are made, however, third party collections do not reduce systemwide costs. Furthermore, since there may be considerable administrative expense in third party collection (especially in identifying other coverage), pursuing all claims may not be cost-beneficial. Dependent coverage under COB also poses a difficult issue. Another problem with COB is that given the changing health insurance marketplace, equitable coordination of benefits policies will be more difficult to establish. And COB, which is already difficult for some employees to understand, may become more confusing in the future.

Issues to consider in deciding whether and how to adopt third party collection policies are: whether employee demograhics suggest a fertile ground for COB (by a high percentage of female employees); whether to require subrogation in the policy (such clauses are enforceable under

Colorado contract law(50)); how to cover dependents; how to avoid employee confusion and obtain employee cooperation (explaining the concept of primary coverage and discouraging submitting claims to a carrier just because the payment is faster or the benefits broader from a secondary carrier); how to provide incentives (such as bonuses) for claims administrators to pursue COB; how to structure COB so that it does not provide perverse incentives; how to implement COB and identify sources of third party coverage; and what size claims to pursue, given the costs of collection. A third party collections policy, including subrogation and coordination of benefits, must specifically define the primary payer, including who covers dependents, and describe all limits of policy coverage when another policy also covers the enrollee.

Traditionally, the male worker's insurance was expected to be the primary coverage for dependents, but due to pressure from firms that felt this inequitable, the National Association of Insurance Commissioners has proposed a different rule: the primary insurance will be that of the insured parent with the earlier birthday.(103) This rule would distribute dependent coverage more randomly among firms and is being considered for adoption in Colorado, although it will be difficult to administer fairly if states adopt different laws on the subject.

Given the changes in employee health benefits, particularly the development of alternative plans and spending accounts, coordination of benefits policies can produce untoward incentives. For instance, employees can choose to use more generous plans (such as HMO's) from the spouse's employer as primary coverage, shifting the family's costs onto that employer and away from the employer whose plan requires premium sharing, deductibles, or copayment. Thus COB may dilute the effect of cost containment strategies by creating a conflict among the strategies of different firms.(103) Bethlehem Steel has attempted to solve this problem by prohibiting its plan from paying the deductible of another plan, in order to coordinate cost containment policies among employers as much as possible.(57) SEOGIB's structure with varying premiums for covering different numbers of dependents should discourage duplicate coverage; since employees must pay for dependent coverage and can pay for one or two or more dependents, they are less likely to have dual coverage.

Finally, collecting and updating information on third party coverage is costly and time-consuming. Bethlehem Steel took two years to establish its COB data base.(57) Obtaining access to files, such as workers' compensation and unemployment compensation, if they are public information, could be worth the effort, since obtaining accurate data on claims forms from enrollees is difficult, and the face-to-face interviews used by Medicaid are impractical for most employers. Small employers that know the employment status of most spouses may be able to maintain a more accurate third party collections file than larger employers.

C. Claims Audits

Claims audits are a useful strategy to minimize the inevitable inadvertent errors that occur when hundreds of thousands of health services are reported on insurance forms. Claims can be reviewed before payment in order to verify enrollee eligibility, accuracy of billing, and medical necessity (as discussed in Section VI). Eligibility and billing

verification are important, because it is estimated that 3% of claims may be paid for ineligible persons and that 6% of bills include errors.(17, 44)

Large employers estimated savings of 5.5% of claims in 1983 by avoiding coverage of ineligible persons.(51) The federal Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) has developed a computerized beneficiary eligibility system to verify eligibility before claims payment.(106)

While only 6% of all insurance claims may contain billing errors, it appears that most large hospital claims are inaccurate. From its hospital audit program for calendar year 1984, Aetna Life Insurance Company audited a sample of bills over $15,000 and found that about 90% had errors, with average overcharges of $900.(91) Equifax Services, a hospital bill audit firm, found that 98% of large bills (averaging $25,000) were in error. Three-quarters of the overcharging bills also undercharged for some services, but on average the bills exceeded actual charges by over $1250. About half the overcharges were for drugs.(22) This study revealed that the proportion of inaccurate claims has increased steadily over the last three years. Texas A & M University has recently expanded its hospital bill audit program to include claims under $5000 (the previous threshold) and is saving ten times the salaries of the nurse consultants administering the program.(48) Colorado's Department of Labor and Employment began auditing workers' compensation bills over $5000 and other randomly selected bills. In its first seven months the program saved over $30,000, 3% of claims.

Many employers require their claims administrators to audit claims for eligibility and billing errors. A few have begun to encourage enrollees themselves to check their hospital bills by sharing savings from bill errors. (The bonus is taxable income.) Carson, Pirie, Scott & Co. in Chicago (with 12,000 employees) is recovering from $1000 to $2000 per month from erroneous claims by sharing 20% of the savings (up to $100) with the employee.(17) Employees are encouraged to solicit help from their physicians in determining if billed services were actually provided. If an employee discovers and verifies an error, he or she must negotiate the change in billing. The program was unsuccessful when first introduced as part of a variety of benefit changes but has finally caught on after considerable employee education through memos, posters, and payroll check stuffers.

Several state employee plans have similar consumer audit programs. Arizona splits savings with employees 50-50 up to $750. Kentucky pays the employee 25% of the savings up to $125.(78) Florida shares 50-50 up to $1000.(78) Kentucky's program has not been much used by employees. The state has recovered under $50,000 and incurs the costs for administration, since the state negotiates the correction with providers. (The state took this responsibility over from Blue Cross.) Plan administrators surmise that the program has not been well enough publicized among employees.

Claims auditing is a practice that all purchasers should follow. If targeted, it has the potential of considerable savings. A wide variety of claims audit software is available to perform this function. Purchasers can also contract for routine or occasional claims audits. It is possible that a claims audit program will have a sentinel effect once providers know of its existence. On the other hand, claims auditing is expensive. Kentucky paid $65 per claim for a sample audit.(46) Consumer bill audit programs have

potential for savings only to the extent that they are effectively communicated to employees. Consumers may have difficulty obtaining itemized bills, although the Joint Commission on Accreditation of Hospitals standards and the American Hospital Association' "Patients' Bill of Rights" both support right of patients to itemized bills. H.B. 1344 (1985) that would have required itemized hospital bills in Colorado was defeated in the General Assembly.

Issues to consider in determining whether and how to structure a claims audit program are: the types of eligibility and billing errors experienced by the plan (based on a retrospective review of claims); at what level to target hospital bills for audit; the costs of an audit program; whether the firm or the employee should be responsible for negotiating corrections with providers; and how to educate employees to use a consumer bill audit program.

D. Claims Processing Contracts

Contracts for claims processing, by insurers or claims administrators, should contain performance standards and rewards and penalties for adequate and substandard performance. Due to problems with its first year of operation, North Carolina negotiated a very tight contract with its fiscal agent, establishing a financial penalty for claims payment errors, a bonus for reduction of hospital lengths of stay, and a penalty if coordination of benefits fell below a certain level.(78) The Colorado Medicaid fiscal agent contract specifies financial penalties (per claim or per day) for violating contract terms such as claims processing time limits, timely report preparation, and data system development. The contract also requires the fiscal agent to pay for any overpayments made to a provider.

Contracts should specify payment arrangements with appropriate incentives. For instance, contracts with payment based on numbers of claims are inconsistent with cost containment activity, since they provide the incentive to increase, rather than decrease, claims and drive up costs.

E. Benefits Consultant Contracts

A benefits consultant who can help a purchaser analyze its health care experience and design benefits and cost containment strategies is a valuable asset as the health care marketplace is changing rapidly. It is estimated that two-thirds of large U.S. firms use benefits consultants.(53) A consultant will be useful to even the firm with in-house benefits staff, since a specialist can keep current on developments in health care delivery and cost containment at the local and national levels. A consultant is even more important for small employers, who cannot employ a benefits specialist.

Consultant contracts should include cost containment activities that the consultant is qualified to perform, such as auditing, quality review, enrollee education, and possibly even more direct intervention. SEOGIB uses its consultant, Byerly and Company, to perform its hospital case management program and conduct some enrollee education.

XI. CONCLUSION

This report has outlined a set of strategies that state agencies purchasing health care can use to control health care expenditures. Purchasers interested in pursuing particular activities should research them further, since published evaluations on and empirical experience with each activity exceed the limited scope of this report.

While the utility and design elements of each cost containment strategy differ, a few concluding observations can be made. First, adopting a cost containment program should be premised on analysis of the purchaser's individual enrollee population's needs and use patterns in order to assure that activities are most relevant to the purchaser's health care cost problems. In collecting and analyzing health care data, the newly created Health Data Commission will be very helpful. State purchasers should develop a coordinated approach to working with the Data Commission to provide and receive information that can be used to contain costs.

Once strategies are conceptualized, enrollees, especially employees, should be included in their development, and especially their marketing. Since employees will view many of the traditional cost containment strategies as benefit cuts, these changes must be developed and explained in a way to minimize employee resistance. For instance, programs such as second surgical opinions, ambulatory surgery benefits, wellness programs, and financial incentives, should be viewed as additional benefits that protect consumers from harmful, unnecessary care. The one theme that pervades the stories of successful cost containment programs in the public and private sectors is the importance of consumer education, in understanding both a plan's benefit limits and how to use the health care system under its current competitive market orientation. Informing consumers about the fact and causes of rising health care costs and their role as prudent purchasers in curbing this trend is essential to consumer acceptance and active participation. While enrollee education is perhaps the most fundamental component of a successfully marketed cost containment program, early and frequent contact with health care providers in program design and implementation is also necessary to overcome provider resistance and assure cooperation.

Cost containment programs should be regularly and methodically evaluated. Their impact on costs is, of course, of great interest. But their impact on employee satisfaction and on the elusive concept of quality of care is also important. A utilization control program that saves money in the short run at the expense of quality is actually costly in longer-term health system dollars and human terms. A large portion of medical care decision making is discretionary, except for the few clear cases where, for instance, surgery should and should not be performed. It is on this discretionary care that purchasers can have the greatest impact through utilization controls. But purchasers must be vigilant that needed care is not reduced and quality is not impeded.

Furthermore, considering the dynamic nature of the health care system today, cost control strategies must be considered evolutionary, and purchasers must be prepared to refine, amend, and delete programs that are either ineffective or obsolete. As the health care industry changes rapidly and providers react to each cost containment initiative with other ways to

maximize revenues, purchasers must remain flexible and respond to changing conditions. Price discounts will not save money if volume increases; ambulatory surgery may not always be less expensive than inpatient surgery; control of routine hospital costs may ignore expensive and discretionary ancillaries. Adopting a series of cost containment strategies is, therefore, an ongoing process of needs assessment, design and implementation of responses, monitoring and evaluation of experience, and program refinement. To achieve objectives of cost and quality control, public purchasers should be willing to undertake a gradual and evolutionary path, sharing their experiences with one another and with the private sector.

APPENDIX A

Lists of procedures subject to Second Surgical Opinions

A. SEOGIB (list based on most frequently used procedures)

back surgery
foot surgery
coronary by-pass surgery
gall bladder removal
hysterectomy
meniscestomy
prostatectomy
tonsellectomy
herniorrhaphy
hemorrhoidectomy

B. North Carolina

1982: tonsellectomy, prostatectomy, hysterectomy, cholecystectomy, hemorrhoidectomy

1985: added knee, nose, thyroid, coronary artery by-pass

C. McCarthy Cost-Benefit Study (McCarthy 1985)
(procedures selected for study due to 1) above average likelihood of being non-confirmed by second opinion or 2) their higher cost per case)

procedure	cost-benefit ratio
breast mass excision	1:5.88
bunionectomy	1:7.45
cataract	1:2.26
cholecystectomy(gall bladder)*	1:3.85
coronary by-pass*	1:25.64
D and C	1:1.04
deviated septum	1:3.18
hernia repair	1:2.57
hysterectomy	1:11.50
knee surgery	1:6.77
prostatectomy	1:8.40

*Author urges caution in relying on these cost-benefit ratios due to small numbers of procedures in sample.

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