Arthroscopy: The Journal of Arthroscopic and Related Surgery 10(4):462–470
Published by Raven Press, Ltd.

What Would You Do?

An Alternative Health-Care Reimbursement System—Application of Arthroscopy and Financial Warranty: Results of a 2-Year Pilot Study

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Summary: The results of a 2-year pilot study on an alternative health-care reimbursement system are presented. This innovative system includes a 2-year warranty by the providers to protect the insured and insurer from additional expenses. It is based on the advantages of arthroscopy. This system provided access, choice, and affordability for 111 patients from a managed care environment who were predetermined to be orthopedic surgical candidates. The unique features included unlimited free consultations and office radiographs. Payment was made only if a patient had surgery. This single fee included all related physician and hospital charges for surgery and any subsequent service for the next 2 years under the warranty. The profit margin for the providers was based on the application of arthroscopy, which anticipated reduction in the customary hospitalization. Accountability was provided by reporting of surgical indications and incidence. The surgical incidence of 42% was less than what was projected. The health maintenance organization insurer saved in excess of $125,000.00. Both the hospital and the surgeon earned more than under existing reimbursement systems. **Key Words:** Health-care reimbursement—Warranty.

Health-care costs are escalating in the United States. The fee for service system pays for any service supported by a billing code. The providers are not financially responsible for the outcomes of treatment (1). Repeat services for complications become an additional financial responsibility for the insurer and/or the patient. In some cases, these expenses are shifted to the patient by copayment requirements, through balanced billing, or due to cessation of insurance. As a result, managed-care systems have been created to identify preferred providers, monitor utilization, and control reimbursement, but with additional administrative expense.

The purpose of this report is to describe a system of reimbursement that delivers a preferred provider, monitors utilization, and reduces costs without additional administrative expense. This system provides a cost benefit to the purchaser through collaboration of physician and hospital, well-defined services, competitive pricing, elimination of hospitalization by technology, and reduction of administrative costs. The warranty protects both the insurer and the patient from additional expense for 2 years.

The financial outcomes of a 2-year pilot study with this system are presented.

MATERIALS AND METHODS

In this pilot study, the orthopedic surgeon (L.L.J.) collaborated with his principal hospital, Ingham Medical Center, Lansing, Michigan. They contracted to become a single provider. Legal coun-

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sel provided language avoiding mention or intention of a joint venture. This measure avoided legal ramification of restraint of trade. Other surgeons were free to make similar offerings.

Each member agreed to predetermined fiscal responsibility. The surgeon provided the cash reserve security deposit. The surgeon was responsible for rendering the office visits, radiographs, surgery, consultants for any complications, video documentation, follow-up care, utilization review via computerized medical record, administration of the program, and any repeat surgery. The hospital accepted the expenses of hospitalization, laboratory testing, in-hospital radiographs, preoperative electrocardiograms (EKGs), possible cardiologist consultation, anesthesiologist, physical therapy and occupational therapy on the operative day, and any repeat hospitalization. The hospital negotiated with staff cardiologists and anesthesiologists.

The surgeon and the hospital constructed an offering of predetermined, well-defined surgical services for shoulder and knee problems, listed by ICD-9-CM diagnostic and/or CPT treatment codes. Both the surgeon and the hospital had data upon which to base the pricing of the well-defined product. The surgeon had traced his surgical outcomes for several years. The hospital knew that the average hospital stay was <1 day for this type of patient when arthroscopy was the mode of treatment. They both knew that the complication rate for these services was minimal. The payment schedules of the insurers in the region were known. There were well-defined exclusions in the contract; i.e., the providers paid only for defined services under their control.

The providers believed a potential profit margin existed by minimizing the hospitalization expense through the technology of less invasive arthroscopic surgery that was not widely used in Michigan for these conditions in 1985–1986 (2). The average length of stay for the proposed diagnostic and treatment groups was 4.7 days at an average cost of $4,700.00. The proposal of a single unit price (SUP) of $4,000 would be attractive because it was below what providers were paying for hospitalization alone for the initial surgery of these conditions in 1986. Ingham Medical Center's cost (not price) for a single hospital day was $600.00.

Administrative expenses were reduced for all parties. The referring physician was authorized to call directly for an appointment. The surgeon's office did not need to go through the usual precertification process. The payment system was simplified. There was no fee charged for the office consultations or radiographs. A single charge was made only if surgery was performed. The single fee included all related subsequent services rendered by the providers for 2 years; i.e., repeat visits, radiographs, reoperation, and repeat hospitalization. Itemized billing was unnecessary for the frequent outpatient services. Accounting procedures were minimized. Collection expense was eliminated.

This reimbursement concept was proposed to several mid-Michigan managed health organizations supported by a formal legal document. Only one contract was finalized. Blue Care Network, a community health maintenance organization (HMO) owned by Blue Cross and Blue Shield of Michigan, agreed. They are located in Lansing. The three-county surrounding geographical area has a total population of 350,000. The enrollment of the HMO at the time of the contract was 62,255.

The HMO agreed to refer only patients predetermined by their staff physicians to be surgical candidates. Their staff included one orthopedic surgeon who also referred patients with problems outside of his expertise.

Accountability was initiated by the providers. The surgeon disclosed his historical 50% incidence of surgery on new patients in his practice. His previous patients were not so carefully selected as surgical candidates as those anticipated under this contract. The HMO was advised under these stricter conditions of referral that the percentage of surgery on their referrals would probably exceed 50%. They accepted that possibility.

A concession was made by the provider during negotiations to allow the HMO to choose the type and number of patients to be referred for evaluation. The HMO wanted to retain freedom for themselves and patients to choose another consulting surgeon. This option potentially weighed the contract in the HMO's favor. They could restrict the number of patients referred and/or send only more complicated orthopedic cases under this contract.

In this pilot study, all patients were to be seen by one physician (L.L.J.). The surgeon had independence and authority to schedule surgery. Professional accountability was provided through timely reporting with a well-documented computerized medical record. The diagnosis plus the rationale for both nonoperative and surgical intervention was reported to both the patient and the HMO. In addition, the surgeon's percentage of operations and re-

operations were readily calculated at any time during the contract. The HMO had immediate access by this medical record for anticipating expenses and ongoing knowledge of percentage of surgery performed upon their referrals. Videotape recordings were made and stored on all surgical procedures to provide a permanent visual documentation of the service rendered.

The 2-year warranty applied only to patients undergoing surgery, not those undergoing nonoperative treatment. Any nonoperative patient could be referred again for reevaluation without charge. Expenses due to a complication would be assumed by the providers. The surgeon assumed the professional fees, including consultants. The hospital paid hospitalization costs. Negotiations with the HMO resulted in an 8-day cap on the hospitalization expense for the provider. Because the patient group was anticipated to be small, the HMO accepted the expense of an unforeseen catastrophe.

A separate bank account was established and initially funded for $20,000 by the surgeon to hold the patient, the HMO, and the partner hospital harmless for any future charges. The doctor and the hospital were not joint and severally responsible, only the doctor.

The contract was terminated by either party on a 30-day notice, yet the provider warranty would remain intact for all previous surgical patients.

The period of this pilot study was from April 1, 1987 through December 31, 1989. This follow-up study was initiated after December 31, 1991, when the 2-year warranty ended. Two years is also the standard time period for reporting clinical outcomes.

Financial calculations used the Ingham Medical Center Hospital services and consulting fees and the HMO's fee schedule (Tables 1 and 2). This computation used the customary initial office fee payment by the HMO. The radiography fee calculation used that of Michigan Blue Shield. No accounting was made for time or materials to establish the contract. The legal fees were not included in the reported expenses (estimated to be <$1,500 because itemized billing was possible in retrospect). The hospital and the surgeon equally shared the revenues according to their collaborative agreement.

RESULTS

A total of 111 patients were referred for surgical consultation as a result of this contract; 109 patients were seen by one physician (L.L.J.). Two patients were seen by other physicians due to a scheduling misunderstanding. Each patient was seen by an associate of the contracting doctor.

The study population was composed of 82 males and 29 females. Their age range was 8–84 years (mean 39.7).

Of the 82 males, 53 had a single knee problem and seven had a bilateral knee problem. Eighteen had a single shoulder problem and one had a bilateral shoulder problem. Two patients with knee problems also had ankle problems. One patient with a primary knee problem also had a complaint of the shoulder and elbow. Another man had a neck and scapular problem. One male knee patient was seen by another doctor.

Of the 29 women, 20 had a single knee problem and two had a bilateral knee problem. Seven had a

TABLE 1. *HMO's benefit*

Expected payments	
111 referrals	$3,885.00
55 radiographs	3,091.00
EKGs	252.00
Physical therapy	4,167.00
Occupational therapy	202.00
Respiratory therapy	1,682.00
Radiograph	250.00
Surgeon's fee	40,397.50
Bilateral cases	1,500.00
Anesthesiologist	13,900.00
Hospitalization	227,400.00
Reoperations	
Hospital	18,800.00
Surgeon	3,003.00
Saved	$318,538.50
Paid	−193,000.00
Total savings	$125,538.50[a]

[a] This amount was saved on surgical cases. It did not include the amount saved by not performing surgery on the 62 patients who were thought to be surgical candidates by the referring physician.

TABLE 2. *Hospital's benefit*

Amount normally charged		Amount normally received (at 76%)
Inpatient surgery	$25,926.00	$19,703.71
Outpatient surgery	78,424.00	59,602.24
Subsequent surgery	7,350.00	5,586.00
Total	111,700.00	84,891.71[a]
Amount received from contract		$96,500.00
Amount hospital would normally receive		−84,891.71
Net gain		$11,608.29

[a] Hospital charges were all inclusive (hospitalization, operating and recovery room, laboratory testing, radiography, EKG, and anesthesiologist expenses).

single shoulder problem. One woman with a shoulder problem was seen by an associate.

The nature of the initial clinical diagnosis is shown in Table 3. Comorbidity was low, as expected with orthopedic cases of this nature. The most common problem was degenerative arthritis (n = 29). The second most common diagnosis was a torn meniscus (n = 23). Thirteen patients had a torn anterior cruciate ligament.

The shoulder problem diagnoses are listed in Table 4. The most common clinical diagnosis was a torn rotator cuff (n = 13).

Other anatomical region diagnoses are listed in Table 5. These cases were mistaken referrals because they were not a condition of the contract but were voluntarily included by the providers.

Radiographs in the Office

Fifty of the 111 patients underwent radiography in the office. Thirty-eight had one regional radiograph. Twelve patients had more than one regional radiograph taken at the office during the course of treatment. Specialized imaging tests (magnetic resonance imaging, computed axial tomography scan, bone scan) were excluded from this contract. Because neither the requisitions nor the services were under the control of the surgeon they were infrequent.

Initial Disposition

Forty-two percent (n = 47) of the referral patients had surgery recommended at the initial visit (Table 6). This included two patients seen by the primary surgeon's associates, who recommended and performed surgery. Nine of the 47 patients chose not to have the recommended surgery. Two additional patients (2%) were recommended for a surgical procedure (total knee) that was outside the contract provision. These two procedures were performed elsewhere under a different HMO agreement.

Fifty-six percent (n = 62) of referral patients were not recommended for surgery after the initial evaluation (Table 6). These patients were returned to the HMO medical staff for nonoperative management. Eleven of those 62 patients initially thought not to require surgery later developed indications for surgery. This surgery was performed by the contractual surgeon (L.L.J.).

In all, 44% (n = 49) of the surgical referrals came to surgery under this contract.

TABLE 3. *Knee diagnoses*

Diagnoses	No. of patients
Degenerative arthritis	29
Torn meniscus	23
Torn anterior cruciate	13
Subluxation of the patella	4
Torn tibial collateral ligaments	4
Adhesions	3
Osteonecrosis	3
Anterior knee pain	2
Chondromalacia of the patella	2
Normal knee	2
Overuse syndrome	2
Traumatic arthritis of the patella	2
Baker cyst	1
Contusion patellar tendon	1
Cyst in the meniscus	1
Hamstring tendonitis	1
Osteochondroma	1
Osteochondritis	1
Loose body	1
Prepatellar bursitis	1

The total number of cases diagnosed exceeds 111 because of bilateral cases and multiple major treatable diagnoses.

TABLE 4. *Shoulder diagnoses*

Diagnoses	No. of patients
Torn rotator cuffs	13
Dislocating shoulders	4
Frozen shoulders	2
Impingement syndrome	2
Labrum tear	2
Painful shoulder/postoperative stapling	2
Degenerative arthritis AC joint	1
Loose body	1
Rotator cuff tendonitis	1
Shoulder strain	1

Electrocardiograms

Nine patients had a preoperative EKG.

Consultations

There were no preoperative consultations.

Index Surgery

Fifty-one index surgeries were performed on 49 patients, including one bilateral knee and one bilateral shoulder surgery. Forty-nine procedures were performed by L.L.J., two by an associate (arthroscopic glenohumeral ligament repair and arthro-

TABLE 5. *Other joint diagnoses*

Diagnoses	No. of patients
Instability ankle	2
Degenerative arthritis elbow	1
Neck strain, functional evaluation scapula	1

TABLE 6. *Recommendation at initial and subsequent visits*

Recommendations	No. of patients	Surgery performed	No. of surgeries	Refused surgery	Surgery later
Surgery	47	38	—	9	—
Total knee	2	—	—	—	—
No surgery	62	—	51	0	11
Total who underwent surgery (n = 49)		38			11

scopic meniscectomy). The type of knee surgery is listed in Table 7. The most common knee surgeries were arthroscopic meniscectomy (n = 9) and anterior cruciate ligament reconstruction (n = 8). The 14 shoulder surgery types are listed in Table 8. The most common type was arthroscopic acromioplasty (n = 5).

Hospitalization

Eighty-six percent (n = 42) of the surgical patients were treated as outpatients. The average hospital stay for this study was 0.4 days.

Seven surgical patients were admitted to the hospital after surgery. The length of stay ranged from 1 to 6 days. The average stay of hospitalized patients was 2.86 days. Two patients stayed 3 days (H.W. and H.J.) after a high tibial osteotomy. One (M.F.), a leukemia patient in remission (5 years), stayed 5 days for prophylactic i.v. antibiotic therapy. One patient (H.K.) stayed 6 days with severe gastritis, nausea, and vomiting related to anesthesia.

Reoperations

Four subsequent procedures were performed on three patients. These procedures were performed without hospitalization (Table 9) There was no charge made by the surgeon or hospital under the terms of the contract.

TABLE 7. *Index knee surgeries*

Surgeries	No. of patients
Arthroscopic meniscectomy	9
Anterior cruciate ligament	8
Chondroplasty	3
High tibial osteotomy	3
Meniscus repair	3
Synovectomy	2
Arthroscopic abrasion arthroplasty	1
Adhesiolysis/manipulation	1
Bone graft to femoral condyle	1
Diagnostic arthroscopy	1
Excision osteochondroma	1
Open excision bursa/bursectomy	1
Patellar realignment	1

Case 1 (M.F.)

The index procedure was an autogenous bone graft to a femoral condylar defect of aseptic necrosis secondary to chemotherapy and cortisone treatment for previous acute leukemia. The patient was in remission at the time of the index procedure. He underwent two subsequent unplanned procedures. The first was a closed manipulation for ankylosis. The second was arthroscopic debridement 1 day short of the end of the warranty.

Case 2 (G.B.)

The index procedure was an anterior cruciate semitendinosus graft. The subsequent unplanned procedure was adhesiolysis 5 months after the index procedure.

Case 3 (J.S.)

The index procedure was bilateral shoulder surgery. The procedure on the left shoulder was debridement and acromioplasty. The procedure on the right was an arthroscopic acromioplasty and rotator cuff repair with metal staple. The subsequent planned procedure was for staple removal.

Administrative Problems

All participants experienced some confusion during the adjustment to the single-payment system. The HMO payment staff thought more bills should be arriving. This and other reasons resulted in payment delays, even for months. It should be noted that delays in payment were standard operating procedure for this HMO under other contracts. Ser-

TABLE 8. *Index shoulder surgery*

Surgeries	No. of patients
Acromioplasty	5
Rotator cuff repair	4
Removal of staple	2
Shoulder reconstruction GH joint	1
Debridement GH joint/manipulation	1
Labrum resection	1

TABLE 9. *Subsequent surgeries*

Surgeries	No. of patients
Adhesiolysis/manipulation	2
Abrasion arthroplasty	1
Removal staple shoulder	1

vices excluded under the contract were often erroneously sent to the surgeon.

Subcontractors, like internists and anesthesiologists, occasionally erroneously submitted individual bills to the HMO rather than to the hospital or physician.

The surgeon's office staff erroneously assigned two contract patients to his associates. The associates who did other contract work for the same HMO unknowingly treated the patients. These patients were included under this contract. The two nonparticipating associates were paid by the contract surgeon for the services.

FINANCIAL BENEFITS

HMO

The HMO paid $193,000 for the services during this pilot study (Table 1). They should have paid $196,000 for the 49 surgical cases. The difference was the result of the surgeon voluntarily reducing the fee by $1,000 in one case and $2,000 in another because the problem and the procedures were simpler than coding would reflect.

The HMO's financial benefit was calculated by removing customary expenses involved in their 111 surgical referral patients and the 49 patients who received surgery. The HMO did not pay for the 111 initial orthopedic consultations ($3,885.00) or the 50 radiographic examinations ($3,091.00). They were not charged for the nine EKGs ($252.00). They did not pay for 39 uses of preoperative physical therapy instruction ($4,167.00). Two patients had occupational therapy ($202.00). Respiratory therapy services were administered to 53 patients ($1,682.00). Five patients underwent radiography at the hospital ($250.00). When surgery was performed, they were not charged a surgeon's fee ($40,397.50). They were not charged the customary 50% fee for the bilateral cases ($1,500.00). There was no customary anesthesiologist's fee ($300.00 × 55 = $14,500.00). The average Michigan hospitalization expense for the surgery cases would have been $227,400.00. They did not pay for the four reoperations ($3003.00 for surgeon and $18,800.00 for the hospital). The usual time to resume billing after surgery would be 90 days, but the HMO was not billed for any postoperative management for 2 years. This amount was not calculated for this study.

The HMO's savings during this pilot study was $125,538.50. An additional savings was realized, but was not calculated on the 62 surgical candidates who did not incur the expense of surgery. If the patients not having surgery were to have paid hospitalization charges alone, it would have amounted to an additional $291,000.00 savings for the HMO.

Hospital

The hospital received $96,500.00. They would have earned $84,891.71 for the services rendered if not under this contract of the pilot study (Table 2). The warranty cost the hospital $5,586.00 in lost revenues due to the four subsequent surgeries. The hospital's benefit was $11,608.29.

Surgeon

The surgeon received $96,500.00. He would have earned $51,877.25 from the HMO as a participating physician for these surgical services outside of this contract (Table 10).

The doctor granted 111 new patient office visits without charge. At $35 per patient, that produced loss of income of $3,885 in office care. Free radiographs amounted to $3,091.75.

The warranty cost the surgeon $3,003.00 in lost revenues for repeat surgery. The surgeon paid the usual and customary surgical fee to his associates for the services they rendered ($2,000.00). The contracting surgeon made a net gain of $42,622.75.

TABLE 10. *Surgeon's benefit*

Usual amount charged		Usual amount received
Office visit	$3,885.00	$3,885.00
Amount for radiography	3,091.75	3,091.75
Index surgery	$40,397.50	$40,397.50
Bilateral	1,500.00	1,500.00
Subsequent surgery	3,003.00	3,003.00
Total	51,877.25	51,877.25
Amount received from this contract		$96,500.00
Amount paid out to associates		−2,000.00
Amount usually received		−51,877.25
Net gain		$42,622.75

The outpatient surgery charge under Ingham Medical Center and the index surgery charge under Dr. Johnson includes the charges for the two surgeries performed by other doctors (D.D. and G.U.) during this contract.

DISCUSSION

The present problems of the U.S. health-care system include uncontrolled costs, inadequate access, and dispirited physicians (3). It has been expressed that these problems are not likely to be solved (3). The outcomes of this pilot study demonstrated potential solutions for these U.S. health-care reimbursement issues. In this concept costs were controlled, unlimited access was made available, and the physician initiate and control avoided being dispirited.

Although this system probably has marketing value, the motive for this study was to create a means of eliminating unnecessary surgery, with the shift of financial accountability to the provider as a passive restraint, while providing benefit to all participants.

Cost Control

Cost control is not always achieved with existing systems, including managed care (4). Costs were reduced in this pilot study by the lower than projected incidence of surgery on referral surgical candidates. Because 100% of the referral patients were considered surgical candidates, the surgeon's judgment reduced the surgical incidence by 56% when compared with the referring physician's opinion. In these cases, the HMO was saved the expense of original surgery and any subsequent related treatment. The savings of thousands of dollars for each unnecessary surgery could only be calculated if compared with another consultant's surgical incidence. The surgeon's recommendations were conditioned by his knowledge of previous outcomes. He knew from previous office practice analysis that when he suggested no surgery at the initial office encounter, only 5% would subsequently undergo surgery at a minimum of 2 years. In addition, he was unwilling to recommend surgery with uncertain results for which he would be financially responsible.

An additional safeguard against high costs of unnecessary surgery was the continuous voluntary disclosure and active monitoring of the provider's surgical indications and percentage of surgery on referrals. The HMO could cancel the contract any time their objectives were not being achieved.

In this system, any costs of hospitalization were voluntarily accepted by the providers. Because they previously calculated their risk, this initiative removed the administrative time and expense of the customary active restraints such as precertification and utilization review (4,5).

The providers voluntarily accepted the expenses of postoperative morbidity, complications, and reoperations. The providers' willingness was based on the knowledge of their past good clinical outcomes. In this reimbursement system, if additional expenses do occur for any reason, they do not become the financial responsibility of either the patient or the insurance company (HMO). This willingness and knowledge perhaps gives additional definition to a preferred provider.

The financial risk of traditional health-care systems is usually borne by the employer (5). This risk was voluntarily accepted by the provider's warranty of financial accountability in this system, thereby controlling costs.

Financial Effect of Emerging Technology

This report demonstrates that emerging technology need not adversely affect the cost of medical care, but rather be used to reduce expenses.

Choice and Access

The desirable features of choice and access were accomplished in this pilot study. Both the HMO physicians and patients maintained the choice of a provider. There were no barriers to access because the initial consultation and postoperative care were without charge to either insurer or patient.

Physician Autonomy

Most medical reimbursement plans in the United States place restrictions on the physician's autonomy through managed-care programs (5,6). In this system, the surgeon maintained autonomy while collaborating with his primary hospital. The surgeon's independence and authority to schedule cases was balanced by accountability provided through the comprehensive reporting medical record system and assumption of financial risk for the outcome. In this system the physician achieved the desirable position of not only providing the care, but was a participant and full partner in its management (5).

Quality Care

The warranty concept providing financial accountability instituted a passive restraint on the practice of medicine. The surgeon was internally constrained to provide definitive treatment with predictable good results based on experience. This system has no incentive for repetitious surgery. The hospital's involvement provided local oversight and responsibility for quality health care by knowledge

of their own services and the surgeon's performance. They would not join with a surgeon who did not have a record of good results. There were financial penalties for the hospital and surgeon for poor clinical outcomes.

Financial Benefits

All parties benefitted financially from this new medical payment system with a warranty. The HMO benefitted the most. This was the intent of the single-unit pricing system. It could be argued that the HMO did not truly receive such a financial benefit as proposed in this report. The HMO delivered outpatient services, whereas their payment amount ($4,000.00) was based on the cost of hospitalization in Michigan for these clinical groupings. Why did they not avail themselves of similar arthroscopic outpatient surgery for their patients? This service was not available for these diagnostic and surgical groups in Lansing, Michigan, during 1988 and 1989 as shown statistically in determining the fee for this pilot study. As a result, even the HMO's staff orthopedist referred patients. In addition, the HMO had no warranty against financial risk of complications with their surgeon or under other orthopedic contracts.

The hospital financially benefitted the least of the three participants. Although they were able to negotiate lower fees from consultants and anesthesiologists, they had no control over case selection or percentage of surgery performed. They did not control the comorbidity of the patients or length of time the surgical suite was used.

The amount of profitability for the surgeon in this pilot study could be challenged. The following factors are offered in rebuttal. He conceived the idea. The concept became a reality through his efforts. He assumed financial risk for the project, including, but not limited to, the security deposit. He was responsible for the administration. He rendered the medical consultations and surgery. He assumed the expense of office radiographs. He controlled his risk with case selection, but still paid for the four reoperations.

Future Considerations

The hospital and surgeon should review any future agreement with more careful cost accounting. The hospital's and surgeon's risk sharing and profitability could be more equal. The risk sharing could be balanced by both parties sharing the expense of the cash deposit security. Any future similar program should clearly communicate the features of a new system to all parties to avoid administrative problems.

The results of this pilot study indicate that a future contract should include a greater population of patients assured by the HMO. Providing an economy of scale would allow the price to be reduced by spreading the risk. In addition, pricing should be by single disease or treatment categories. For instance, the treatment of unicompartmental severe degenerative arthritis with osteotomy had predictable hospitalization and should be categorized separately.

Present Potential for This Type of Payment Method

A wider application of this medical payment system is supported by the results of this pilot study. The principles are sound. It has provider initiative, accountability, passive restraints, and calculated risk with the anticipated rewards.

The fees in this report are actual. The application of this system would require recognition of geographical differences in fees.

The profit margin used in this pilot study no longer exists in the hospitalization expense because outpatient arthroscopy is more widely used for many of these conditions. Potential profit margins are found in other dimensions. Traditionally there is a margin in economy of scale. The collaborate providers are willing to reduce their charges for guaranteed volume from an insurer.

A quality product or service results in reduced expenses, hence increased profitability. In surgery, this is implemented with shorter operating times, reduced postoperative recovery room time, reduced hospitalization with effective outpatient pain management, and predictable good outcomes. The patient who is satisfied with both the method and the result requires fewer postoperative services. The complication-free postoperative period reduces expense. Results without necessity for reoperation are less expensive.

The elimination of unnecessary services reduces expenses. One such unnecessary expense is the routine use of a formal course of physical therapy for all orthopedic procedures. Physician instruction and patient initiative is a cost-effective means of rehabilitation.

Profitability exists in delivering a value to the purchaser without additional expense. The principle of the provider warranty in this pilot study shifts financial risk to the provider who has carefully cost accounted their services.

Cost accounting a surgical practice is based on the surgeon's efficiency in both the office and operating room. The surgeon who has well-established office policies and works by an organized protocol will be efficient. Examples of inefficiency often exist in the operating room with failure to secure block anesthesia time and delays between surgical cases. The surgeon must know his outcomes, complications, reoperation, use of physical therapy, and the average number of postoperative office visits for a given service.

There are some factors in this system that some physicians may find anathema. The idea of change is resisted, although we are in a period of change. The financial accountability could be unpopular, but constituents are telling government that health care is too expensive. The dollar amount in escrow is within most surgeons' financial capacity. The financial risk for outcomes creates passive control on the provider to render care with predictable good results.

This system is applicable to any medical specialists who know their clinical outcomes, have cost accounted their services, have emerging technology, and are willing to take a risk. This system should be attractive to an insurer because it provides quality and cost benefit. Both the insurer and the insured are held financially harmless for additional expenses through the warranty.

Acknowledgment: Winston E. Miller developed the legal contract; John Soderholm negotiated the initial contract for Ingham Medical Center; Dr. Bonta Hiscoe was instrumental by accepting the contract for the Health Central, Blue Cross Network, Inc. by accepting the contract.

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