RECORD OF SOCIETY OF ACTUARIES
1980 VOL. 6 NO. 2

COMPETITION IN HEALTH CARE DELIVERY: MINNEAPOLIS EXPERIENCE

Moderator: HARRY L. SUTTON, JR.
Panelists: ROBERT K. DITMORE, RICHARD BURKE**, BUDROW C. LARSON***, JOHN S. JACOBY, M.D.*****

MR. HARRY L. SUTTON, JR.: As we start, I will give you a little background on the Minneapolis/Twin Cities area and our growth in the HMO field. We have prepared two exhibits to pass out. If we go back to 1970 in the Twin Cities, we had one prepaid group practice plan -- Group Health Inc. of St. Paul -- and they had about 25,000 enrollment at that time. Minneapolis is a somewhat typical midwestern city with many hospitals, doctors, a medical school, etc. 1973 was a major year of change in the Twin Cities. The two largest group practices decided to open prepaid group health plans which unpolarized the negative position of the physicians in the area. Also, this disturbed the local hospital system because they did not know what to do about it.

Since that time, as you will note from the exhibit, the HMOs have grown from approximately 25,000 membership to probably in excess of 400,000. We polled the local health plans to get their total membership as of April and it was slightly under 400,000 for the state. This is about 20% of the total population of the metropolitan area, and statewide it is about 10% of the total population.

A major disappointment is that insurance companies, for the most part, have not really aggressively moved into the prepaid health care field, nor do they seem to know what to do about it. While Minneapolis is unusual at the present time, we see indications that similar things are going to happen in other major metropolitan areas. Probably the next one, although prognosticating is not a good thing in the health field, is Boston, Massachusetts. At the present time, there are some 14 separate HMO programs developing. We have enough problems with seven; how well they will do with 14, I do not know!

Right now, Boston is a very high cost area. If you are in the group health business, you should know that. High utilization and very high hospital costs indicate a good location to start a prepaid plan, because it can be cost effective.

One of the things that I wanted to indicate in the exhibits, besides the membership growth, is that you might say that the bigger the HMOs become the smaller the insurers become in terms of the population they are covering.

*Mr. Ditmore, not a member of the Society, is President of the SHARE Health Plan, Bloomington, Minnesota.
**Mr. Burke, not a member of the Society, is Executive Director of the Physicians Health Plan, Minneapolis, Minnesota.
***Mr. Larson, not a member of the Society, is President of Metropolitan Clinic for Counselling, Burnsville, Minnesota.
****Dr. Jacoby, not a member of the Society, is Corporate Director, Occupational & Environmental Health for Honeywell, Minneapolis, Minnesota.

Most interesting is the fact that at the present time the premium revenue from the HMOs in the State is more than half the premium of Blue Cross, which is by far the dominant carrier. The insurance company premiums, which are accurate, do not necessarily reflect the total group health care market because many large employers are self insured, ASO, MPP, etc., and those costs do not count as premiums for tax purposes. The data were obtained from the State Insurance Department. The prepaid health plans have continued to grow rapidly during 1980.

I think all of you know what an HMO is --- it is an independent prepaid health plan that does not reimburse when you get services, it organizes the physicians and hospitals to provide the services and pays for them internally. Essentially, there are no claim forms, although there is certainly much paper work internally. The patient and the employer are removed from that. Minnesota law, I might also add, is very unfriendly to the HMO in the sense that it has to be a nonprofit corporation. Most of our HMOs make money, which makes us very happy, as they will stay in business.

Also, relative to federally mandated benefit requirements, Minnesota is much worse in requiring such things as relatively full coverage of prescription drugs and, along with a number of other states, rather extensive coverage of chemical dependency treatment. Minnesota also limits copayments, because they felt copayments are a barrier to care --- not reflecting on the problem of comparative premium structure. So noting that the HMOs are competitive in premium rates with insured comprehensive hospital/surgical/major medical plans, the fact that they have provided major additional benefits and stayed competitive indicates a high degree of control of the cost of delivering medical services.

Today we have four speakers on various health service aspects, and I have asked them to give you some insight as to how they try to control their cost. One way of doing that is to negotiate with the existing free-standing elements of the health care system. We hope there is applicability to the insurance company, or you as their actuary. If you are developing rates for health insurance, you ought to understand how health care is delivered. I am not sure whether actuaries really do try to understand, but this program is a bit of education about the workings of our health care system.

Our first speaker today is Bob Ditmore, currently the President of SHARE Health Plan which has about 30,000 members. He is a graduate of San Jose State College in California. He worked at the Stanford Research Institute for many years, had all his practical ideas wiped out at Inter-Study for four years, and then learned them all over again at SHARE in the past three or four years. Bob would like to talk to you about his relationship with hospitals and some things he has done in the past several years in the hospital area.

MR. R. K. DITMORE: Thank you, Harry. I think I will begin with just a very brief description of the SHARE Health Plan so you will know something about out particular program. We began as a staff model HMO --- staff model meaning that the physicians are employees of the HMO nonprofit corporation. The initial facility was hospital based at Samaritan Hospital in St. Paul and we began operations in January of 1974. We remained a single facility HMO until August of 1979, when we developed our first satellite in Bloomington.

Concurrent with that development, we changed our model to a hybrid staff model/group model by contracting with two existing group practices in the Minneapolis area. That gave us four facilities. SHARE's growth rate has been about 30% a year. Our total enrollment, as Harry mentioned, is about 31,000. We are anticipating a growth rate in the 20% to 30% range over the next three to five years -- that is if we can remain competitive. SHARE reached a financial break-even point after three and one-half years. The enrollment level at the financial break-even point was about 13,500. The surpluses that we have been generating have ranged from 1% to 3½% on revenues that have increased from about $4,000,000 in 1977 to $9,000,000 this past year. Our 1980 revenue is projected at about $13,000,000. As Harry mentioned, I have been asked to describe some of our hospital contract relationships and, as I mentioned, SHARE began as a staff model HMO based in a hospital. Samaritan Hospital in St. Paul is a very small 150-bed general medical/surgical hospital which had a very low occupancy rate and considerable excess capacity. Rather than duplicate the services, certain kinds of services, particularly ancillary services, we simply contracted with Samaritan Hospital for the pharmacy, laboratory and x-ray services on a straight risk capitation basis. We had a 5% discount for inpatient services, emergency room, and some other kinds of services, and, in addition to that, we began leasing outpatient clinic space from the hospital. If you are interested, the current capitation (and by capitation I mean a fixed dollar amount per member per month for a specific service) is 50¢ per member per month for x-ray services, 75¢ per member month for laboratory services and $1.05 per member month for pharmacy services. These rates are probably lower than what it would cost if we did do it ourselves, and I think they are quite a bit lower than some of the other HMO competition. We were able to negotiate these rates because of the excess capacity there in the hospital. The negotiation concept was that the marginal cost to produce an additional incremental service was quite a bit less than the total cost, and so with the excess capacity, we were able to negotiate these favorable contracts.

In mid 1979 it became apparent that Samaritan's very low occupancy rate was keeping its inpatient costs up quite high. As I said, it was a 150-bed hospital and they only had staffed about 80 to 100 beds or so, and the occupancy rate on the staffed beds was only 65%. It is a small hospital and really hurting. Up to this point, we felt that the very favorable ancillary contracts would tend to offset the very high inpatient cost. Inpatient cost of medical/surgical was running about $280 per day. That compared with med/surg rates in other hospitals in the area of about $220-$230, so it was about a $40 to $50 difference.

During negotiations this past year with Samaritan, we requested a per diem ceiling of $240 per day, which we felt was a reasonable rate that we needed in order to remain competitive. The negotiations faltered, and when that happened SHARE approached three other hospitals, two with which we were already doing business. We were doing business with one hospital for obstetric services and a second hospital for pediatric services, because those services were not being provided at Samaritan. We requested a competitive bid from all three hospitals. We first talked to them about their interest in bidding competitively. All three hospitals indicated an interest in that, so we structured a formal RFP which was based on the following: First, we asked a fixed per diem regardless of length of stay. Secondly, we asked them to either separate the bid for pediatrics, obstetrics, and medical/surgical, or if they wanted to bid for all of these services, to give us a single composite bid. All three hospitals submitted bids. Hospital A, if

you are interested in these rates, broke down the medical/surgical part to $204 per day for medical and $246 per day for surgical. If you weight that, the composite for med/surg is approximately $220.

Hospital B combined med/surg $220 per day but they broke out ICU/CCU at $294 and, if you put that back in, weighed it, and compared the two hospitals, the weighting for Hospital B would be about $230 per day compared to $220 for Hospital A. They were close.

The third hospital submitted perhaps the most unique bid of any of the three. Rather than bidding on a per diem basis, they bid on a capitation basis. They used SHARE's inpatient utilization rates, which were running 381 days per thousand excluding mental health/chemical dependency, and broke it down into various categories. They came up with a capitation bid of $8.40 per member per month. Now, the $8.40 was approximately what our previous cost had been running so they were sort of in the ballpark --- a little bit higher than the others. The unique thing about their bid was that they were willing to assume risk for all services, regardless of specialty services that might go outside their hospital or services that might be provided in other hospitals and out-of-area emergency basis. They also put a risk corrider around the $8.40. They agreed to assume full risk for any costs that exceeded the $8.40 by 5%. If it went beyond the 5%, they were willing to assume 50% of that additional cost, the HMO would assume the other 50%. On the surplus side, if costs were less than the $8.40, they would retain the full surplus or profit for the first 10% below the $8.40. If it went below the 10% corrider, then they were going to share the surplus back with the HMO on a 50-50 basis. As I mentioned before, as we analyzed these bids, we felt that Hospital A was probably the most attractive whereas the second and third hospitals were quite close. It was difficult to make a direct comparison because of the capitation versus per diem but Hospitals B and C were approximately equal. Without getting into all of the negotiation details, I will simply report that Samaritan Hospital, faced with the loss of the 4,000 inpatient days, finally agreed to our original proposal of $240 per day. Keep in mind that we are physically based there --- all of our outpatient and ancillary work was there. We felt that the favorable ancillary contracts justified a rate of $240 per day as opposed to the $220 to $230 for the outside hospitals. We felt that those two balanced themselves out.

Faced with the loss of about $1,000,000 in revenue for 4,000 bed days, they agreed to a fixed per diem regardless of length of stay at $240 per day. Keep in mind that their cost was running about $280 and so it was a significant reduction for them. As a result of these negotiations, we were able to negotiate a fixed per diem contract for obstetric services at the second hospital. Obstetric services were fixed at $245 per day, regardless of length of stay. At the third hospital we negotiated a straight 5% discount for pediatric services. The net effect of these negotiations reduced the weighted cost per day by about $31 and that translates into about a $243,000 savings. Just to quickly summarize, it is our experience that the combination of events has influenced this kind of hospital behavior. The first thing is that Twin Cities hospitals are overbedded by about 3,000 - 5,000 beds. If you combine that with the HMO growth which is reaching 17% to 19%, the hospitals are really beginning to suffer. The resulting excess hospital capacity is causing virtually every hospital in the Twin Cities to try to align itself with an HMO, and it is forcing them to competitively bid with each other. In our case, that has taken a formal response to a request for proposal.

MR. SUTTON: The hospital situation here is not unique in the sense that most metropolitan areas are overbuilt. One of the things I might point out to you that we see in our travels around is that Rate Commissions could possibly destroy the competitive mechanism that exists where the hospitals are allowed to compete by bidding. For example, the State of New Jersey is in the throes of a major conversion to a standardized reimbursement system. Similar negotiations are coming up in Massachusetts, Maryland, and so on. If you are in the group health business, the Rate Commission may have the effect of freezing the status quo, and does not permit you to negotiate, even where you could prove savings on a marginal cost-type basis. If the Commissions are not willing to do that, then by all this regulation they are tending to eliminate any flexibility, assuming we could come up with a competitive health care system where hospitals would bid to get patients.

Our next speaker is Rich Burke, who is a graduate of the University of Virginia. He is presently Executive Director of Physicians Health Plan (PHP), which is the Minneapolis IPA model, and may be Bob's largest competition at the moment. They are very good friends, both having been at InterStudy at about the same time; one went IPA and one went staff model group practice, if you want to look at it that way. Very friendly, or viscious, competitors, depending on your attitude. I will let Rich talk about the background of PHP. He is also the President of Charter Med Corporation and at one time worked in the claim operations of the Travelers. Charter Med has developed a large computer system to process medical claims of all types and is a very competitive factor in that industry.

MR. RICHARD BURKE: Bob obviously made the wrong decision when he elected to go in the direction he did! Let me begin as Bob did, and tell you just a little bit about Physicians Health Plan. The two aspects I am going to talk about are the hospital component and the pharmacy side. As Harry mentioned, Physicians Health Plan is an IPA, or individual practice association, which is the term coined in the Federal Law back in 1973 to describe a kind of plan which is neither a staff model or a group model. In fact, what we have is 1,700 doctors contracting with a nonprofit corporation, 26 hospitals and roughly 375 pharmacies. The Plan covers an eleven county service area including Minneapolis/St. Paul and St. Cloud. The doctors in PHP, with the exception of two areas - pharmacy and mental health/chemical dependency - are totally at risk for what happens in the Plan financially. A majority of the Board of Directors of the Plan are physicians, so in fact it is the physicians' plan in that respect.

There are two risk areas I mentioned that physicians are not responsible for: mental health/chemical dependency and pharmacy. Our mental health/chemical dependency is handled through Bud Larson's group, and I believe he is going to talk about that so I will not discuss it further.

The manner in which the risk relationship in PHP works is the following: the doctors bill the Plan their usual and customary fees with fee maximums applicable to every procedure. They are paid 80% of their charge or 80% of the fee maximum, whichever is less. The other 20% is reserved. If at the end of the year the books balance, they get the reserve back. If the books do not balance, then they lose a pro rata amount. The last two years they have gotten it back as the Plan has been profitable. That reserve withholding, though at the discretion of the Board of Directors, can go up or down.

At one point during the first three years of the Plan, it was 30%. It is now set at 20%. Enrollment is at present 71,000 to 72,000.

Let me contrast our hospital arrangements from what Bob talked about. Being a different kind of plan, we certainly do not have the level of control that he has, the ability to direct patients to a particular facility (I wonder sometimes if we have any control over our physicians!). In this particular instance we have 26 hospitals. However, over the last five years we have been in operation, we have managed to get about two-thirds of our hospital bed days off of billed charges and onto fixed per diems, which is basically what Bob was describing. This, we found, is about the only mechanism by which we can control hospital costs. Discounts are fine, but if billed charges go up 20% more than you projected, the discount has not done you a great deal. When PHP got started, the hospitals got together and decided that they were going to negotiate as a group, or not at all. This did not do a great deal for competition, as far as this particular plan was concerned. About two years ago, one of the hospital groups here agreed to sit down with us and to negotiate separately from the others and to consider a risk relationship in the Plan. Clearly one of the reasons they wanted to do so was the hope that they would take patients from some of the others, and we have done our best to accommodate them, although not as much as we would like.

Since that time, and primarily in response to the first contract that we signed, another eight to ten of the hospitals have come along and done a similar sort of thing. The relationship is simple: it is a per diem negotiated individually with each of the hospitals and was based on what our experience was with them over the prior year. We set up a deposit, or draw account, for each hospital; we negotiate the amount that goes into that account, based on what our payables have been in the past. They draw the account down based on the bills, or some percentage, and submit their normal discharge statement to us. We pay the claims back into the draw account, so essentially they have immediate turnaround of their money. Our payment, however, is the per diem and our maximum liability is the per diem. There is some stop-loss coverage in those contracts in terms of catastrophic experience, but limits are set high enough so there is no substantial reimbursement shift. There is also provision for sharing a surplus on the lower utilization end, but in fact limits are low enough, so I do not think we are ever going to see any surplus.

I think the main point of contrast to what Bob was describing is that our ability to direct patients is somewhat limited. We feel we can direct about 10% of our patients to one facility or another. He, on the other hand, could presumably take all of his business to one hospital. The reason the hospitals have been willing to negotiate is more fear of losing patients as opposed to the idea that they are going to get a tremendous number of patients at someone else's expense. Clearly, as I have said, we have tried to reward the initial hospital that came into this and give them as much of other people's business as we can but we are somewhat limited.

The second area I wanted to talk about is the pharmacy component. As I mentioned, we have approximately 375 pharmacies in Physicians Health Plan. They are at risk for this particular component of the organization. We pay them a capitation amount and, if I remember my figures, it is $1.56 per member per month. That then becomes the maximum amount they are going to receive for pharmacy services. We pay the bills for them, we keep the data

for them, and the pharmacies submit their usual and customary fees in the manner that I will describe. They are at risk if the dollars or the utilization exceeds the assumptions in the fixed capitation.

There are three components of the pharmacy part of our plan which I think are critical to controlling costs. The first is control of ingredient costs. What we have had to deal with is some mechanism to preclude the manufacturers (through the pharmacies) from passing along unlimited amounts of price increase. We found over the first couple of years with the Plan that ingredient costs were going up 18% to 20% per year. The pharmacy markups were going up in a more reasonable range -- in the 8% to 9% range. In this marketplace we could not afford the full amount of increase in ingredient costs.

A second area of concern is over pharmacy markups. That, in effect, is what made the pharmacies willing to get together and go at risk for this -- to preclude us from going to a few of the chains where clearly we could get a lower price. We still pay a somewhat higher price for what in effect is probably increased flexibility for the members of the Plan, but there are limitations as to how much more we will pay. The problem we had to deal with in this area is finding a way to control markups, primarily in the smaller neighborhood pharmacies. What we found was a range, in terms of markup in ingredient costs, of 300% from the K-Mart to the one-person operation on the corner. Some range in the middle we are willing to accept but we cannot afford the price of a product where the cost of one markup is three times the other.

The third is an audit control over physician/member abuse. We have found (this is something we just got into in the last year) that there is a fairly significant amount of physician and member abuse in terms of prescribing.

Solving these three problems is the reason that the pharmacy component in PHP is structured the way it is. Now, the key components that we have negotiated with the Pharmacy Association are the following: First, there is the capitation payment that we pay to a corporate entity they have set up. It is a multi-year contract and there is a provision that the capitation payment will go up 7% a year for the term of the contract. Thus, they know in advance on a multi-year contract that, in fact, they are going to get 107% of the prior year's capitation payment. So they have incentive to control costs.

Second, there is a mandatory generic substitution. When the claim is paid, a computer makes the assumption that the pharmacy has billed the prescription based on the lowest cost generically equivalent item available in the area. So if the pharmacist fills the prescription with the highest cost item on his shelf, then he is going to eat the difference between that and what the lowest cost generic equivalent item was.

Third, there is the limitation on markups. During the year, we pay the markup that the pharmacy has billed us for. At the end of the year we go back and do a simple statistical analysis to determine what the 80th percentile of markups were for the Plan. All the dollars in excess of that have to be returned to the pharmacy pool. In effect, what we are doing is leveling out in terms of markup the pharmacies at the upper end of the charge pattern. A fourth area is an audit on participating pharmacies in

terms of their cost structure, of which we do a fair amount. We audit individual physicians in terms of their prescribing habits to members, as well as audit individual members -- those who are shopping pharmacies getting the same prescription drug from three or four different places at the same time.

MR. SUTTON: Thank you, Rich. I think you can get a feel of the situation. The HMO is a local phenomenon, and if you have management locally, it is somewhat easier for them to negotiate than you might as an insurer with business scattered all over. I would like to remind you from the information sheet that we are in a reorganization of the delivery of health services. You may call the HMO in a broad sense a localized health insurer. If your in-force is scattered all over the United States, you cannot negotiate in each location for lack of financial power. I think what we are seeing is a gradual shift to where the organization of medical care is going to become competitive on a local self-contained basis. I do not know where insurance companies come in, but as I pointed out, the premium revenue of these plans is substantial. I think insurance companies should start looking if they want to be in the health insurance business other than loss of time.

Our next speaker perhaps represents a solution to a problem that few actuaries may even recognize. However, many major employers recognize it as probably their most critical single health problem today. That is, the treatment of alcoholism/chemical dependency and, if you want to include it, mental health. I am not a purist, but a pragmatist, and I lump them all together. For a purist they may be different, but they overlap considerably. Employers in this area have well-developed employee assistance programs.

Our local community has just completed a study which shows we spend twice as much in the State of Minnesota on chemical dependency per capita as any other state in the union. Because of the state laws that require insurers as well as HMOs to pay for it, we have developed a rather thriving industry which is in bad need of management. If you represent an insurance company, I would like to know if you keep any data on how much you spend on chemical dependency -- my calls to insurance carriers to ask them what their experience is on chemical dependency in Minnesota, Connecticut, Washington, and Oregon, where they have laws requiring rather substantial coverage, produce no answers. If it is 5% or 10% of your total claim cost, how come you do not know? You could be going down the tube and not know.

Our next speaker is Bud Larson, who is a Master of Social Work. I may exaggerate a little, but he has under his control many psychiatrists, psychologists, etc. Perhaps he is administrative, but he sets the strategy for treating this very prominent, serious and expanding area of service. Bud is President of the Metropolitan Clinic of Counselling.

MR. BUDROW C. LARSON: Thank you, Harry. The Metropolitan Clinic contracts with both the SHARE Health Plan and the Physicians Health Plan. You have already seen what shrewd negotiators these two gentlemen are and so we are taking a bath -- thanks to them. We will get even. My comments are not just going to be directed to HMO services, but, rather, I would like to have you think about incentives and what you might do in the insurance business. If you can begin to take a look how incentives can be restructured and benefits reallocated, there may be some stimulation from our discussion today to help you.

Pavlov years ago came up with a finding in his work with dogs that, given the response to a certain behavior, they are eigher going to increase the likelihood of that behavior being repeated or you will decrease the likelihood. I think what we have done in our well-meaning manner within our society is that we have set up a system where either we reward the wrong behaviors or there is an absence of incentive to do something that might be more sensible in the long run. Some examples: Not long ago a 17-year old boy in a fit of anger stole a car. He was witnessed taking this car, it was reported to the police, and the police went out looking and before long saw him. They attempted to stop the car, but instead the young man sped away, ending up hitting a telephone pole. He was brought down to Juvenile Detention Center and there was incarcerated for several days. Now, this boy had had some previous contact with the court -- nothing that was really injurious to other people, except in this instance where he had taken the car. But the probation officer in talking with the judge felt that it would be good for him to go to inpatient mental health treatment. The judge went along with this. The probation officer put down on the court order ALTP (adolescent long-term treatment program). The hospital with their child psychiatrist has a policy that anyone placed in the ALTP unit must have a minimum of 90 days stay. I will tell you how we deal with that a bit later.

Also, not long ago, we had a call concerning a black 14-year old Korean girl who was adopted into a white family and now at the age of 14 had started to leave her family situation and go to a part of Minneapolis where she would have more opportunity to relate to people that had color like hers. The parents were alarmed, police were called to pick her up, and in the assessment that someone else did, inpatient treatment was recommended at a mental health institution. The diagnosis was identity crisis. Now it is understandable that you are going to have an identity crisis -- living in a white middle-class suburban area, you are black and you have no white friends. I will tell you how we dealt with this later.

Let's look at the first 13 requests last year for authorization for care for adolescents who may have some substance abuse or chemical abuse problem. Of the first 13 of those, we found 11 were not chemically dependent. In our usual system of finding people who have problems and then getting them treatment, well-meaning individuals were suggesting inpatient medical care for chemical dependency. That is often inappropriate. The cost involved the treatment of these people in a hospital-based facility and may run $5,000 to $7,000. If 11 of the 13 were not chemically dependent, you would be putting a label on them that they would have to carry the rest of their lives; you subject them to two or three months of treatment, which may in some ways help them as they mature and develop, but it is completely inappropriate if the underlying problem is something else.

I could go on and on giving you case examples like this. In Minnesota we have a study (which Harry referred to) conducted by the Citizens League; they have concluded that in the seven-county metropolitan area there is the inpatient capacity to treat 30,000 individuals per year. We have more inpatient capacity in the metropolitan Twin City area than collectively you have across the country. If 10% of a given population may be chemically dependent, that means that within three years we could treat every chemically dependent person in the territory on an inpatient basis. Yet we continue to have more and more facilities that are built and they stay full. This is not just a local phenonemon that you must be concerned with. People throughout the country are coming here, where we are training all types of counsel-

lors, and they are finding that these facilities are profitable; they are beneficial, and it is humanitarian to help. We are being invaded here to get personnel to go out into the hinterlands and repeat what is happening in Minnesota.

The incentives for the provision of care really need to be looked at. The problem we have, as long as we operate strictly on a fee-for-service basis, is that we do not have appropriate use of personnel or resources. People who are economically waiting for that check from the insurance company are not going to send to another therapist or to another resource that may be less expensive. Sometimes the need of the therapist or the treatment center becomes more important than the need of the client.

Another problem we have is that when people are hurting, generally they do not know what they need or whom they need to see in order to get assistance. I had a call from a father one day who was concerned about his 16-year old son. He said, "I want this boy to work with Dr. X in child psychiatry." Without any assessment or diagnosis of what the problem was, he had heard a friend at work say that his son had worked with this doctor and that things were much better. Therefore, he thought that if that worked for him, it should work for his son as well. Now it is not based on fact; it is not based on what you know about the problem that needs to be solved. It has nothing to do with a particular competence of that psychiatrist to deal with whatever problem is discovered. But the patient is vulnerable, and when he does get into the hands of the therapist, regardless of pedigree, treatment is often influenced by what that therapist may want to have happen.

What can we do about it? There are only two ways that you can handle this kind of problem in my judgment. One is that you as insurers can really take a look at the incentive that you build into your insurance programs and the benefit package you put together. If you are going to reward inappropriate behavior or behavior that is not helpful, then you are going to see a continuation of this kind of activity. The other alternative would be to look at finding a delivery system that may bring a cost conscious attitude to the provision of service. This is something that in this particular environment our firm is attempting to provide. Let's go back to that boy sentenced to the adolescent long-term treatment program. It happened that his parents had joined the HMO. Once we were notified that he was in the detention center, we dispatched one of our clinical psychologists to do an in-person assessment at the detention center. We concluded that the boy did have some depression, and a short stay in a hospital for further assessment and perhaps some medication, might be indicated. However, the bulk of the treatment needed to be directed on an outpatient basis, involving the family. Only after the hospital called for benefits and told us that he was in the ALTP ward did we say, "No, that is not going to happen." We authorized ten days. In consult with the psychiatrists we concluded the patient could be discharged, provided outpatient therapy was provided. The probation officer talked to the mother and recommended she not go along with that. He said, "All they are interested in doing is saving money. I would have a second opinion before I would let your son come out."

The probation officer has nothing to gain or lose by not letting the treatment run its normal course. He has the boy out of his hair for 90 days; the family is without the problems of that child for 90 days -- and it is up to us then to deal with the economics of it. We called in an outside child psychiatrist, somebody that had nothing to do with any of the HMOs.

He went down and evaluated the boy, reviewed the chart and he concurred with the first psychiatrist. At that point, we cut off benefits completely. If the court wants to keep him when it is inappropriate and not necessary, the court can pay for it. The HMO (or insurance) does not have to. The boy was discharged and he did go to outpatient therapy and things have developed very well.

For the black adopted Korean girl we authorized three weeks of inpatient care. The rationale for that was she needed to form some relationships; she needed someone she could trust; she needed to get situated in a way that she could benefit from outpatient consultation. We also suggested to the psychiatrist that he involve a black female therapist to help this girl in her developmental stages and also with her identity problem.

At the end of three weeks, the psychiatrist recommended another two months of inpatient care. Now this particular psychiatrist had dealt with a number of cases. The pattern had been automatically two months of inpatient care and then transfer to residential treatment. In Minnesota, insurance has to pay for residential treatment too. What we did was say, "No! Let's try something else. Can we develop a day program for her where she can participate in the program of that unit, maintain her same relationships with those people who have become important to her, but stay at home at night?" The hospital went along with this, they developed a separate rate of $30 per day, the psychiatrist said he would be willing to do it, and within five weeks, the girl was completely discharged from the program, returned to her family, and is functioning very well. With a different approach, other than what normally happens, you can make some significant differences.

Of those 13 kids that we evaluated, 2 were chemically dependent -- the others were treated in a family environment. Adolescents are going to have problems growing up. Outpatient counselling, helping the parents and the children learn how to deal and appreciate each other and survive with each other, will pay big dividends at a very nominal kind of cost.

In Minneapolis, let's talk about chemical dependency. There is one hospital that also hospitalizes the spouse of the chemically dependent person. They are charging the insurance company for both of them! On and on it gors!

By the way, we operate on a 100% risk arrangement with the HMOs. We get a capitation, and then it is up to us to provide the service the people need and do it in a manner that is cost conscious. We can save money, deal with the patient's real needs, and be profitable. Before our involvement with Physicians Health Plan, it seemed 4% of their population was using up to 30% of their total inpatient days for mental health and chemical dependency care. Their experience before our involvement was something like 130 days per thousand enrollees. At the end of last year, which was our second year with that contract, we had dropped it down to something like 53 days of inpatient care per thousand enrollees. There are significant dollar savings a different system can provide.

I think Bob would echo the same thing. We have been involved with the SHARE Health Plan now going on our fifth year and, prior to our involvement, Bob was saying some of the young people were put into hospitals and perhaps never did get out. All the Plan would do was to get big, big bills!

Well, I will move on quickly here. Time is limited. What might you consider doing about this? One, it may make sense to put a dollar limit on what your benefits will be for the treatment of chemical dependency. Somehow you have to transfer part of the responsibility of getting well to the patient and the treatment facility. As long as there is an annual benefit, where they can continue to go in and go in and go in, the patient does not have the incentive to take responsibility for his own care.

Another alternative might be if a second treatment is needed, at that point you bill them a significant copayment where they have to take a fair bite of the bill.

A third option you might consider would be a lifetime benefit. I know in our welfare system we do this with our senior citizens - like a 190-day mental health benefit. This is because we were frightened of the cost if we did not put in a benefit limit.

Another option would be to begin to reward less expensive alternatives. Frequently throughout the country, you see hospital-based chemical dependency treatment covered. Now there is nothing about a hospital that is magic and you could fund or cover a nonmedically-based chemical dependency treatment unit at less than half the cost, and expect to get accurate if not better results from that treatment. Outpatient treatment, structured day chemical dependency programs are very effective. The Citizens League determined in their study that the treatment results or outcomes are just as good in a structured outpatient program as they are in the expensive inpatient program.

If funding were available for the outpatient program, there could be considerable dollars saved to the insurance company as well as to the industry. On the mental health side, day treatment frequently is not funded. It should be a benefit. It is much less costly to treat someone on an outpatient basis or on a day treatment, than it is to have them housed in a hospital where you have all those excessive bills.

Other things could be done. You could limit the visits per year. I think it is too easy if there are unlimited mental health benefits; the therapist gets locked into saying, "I think you should be seen three times a week or two times a week." If they know they have 20 ro 30 visits to deal with throughout the course of the year, then they better save some in case things deterioriate.

You might again put some controls in the benefit. I think it is not unreasonable to expect second opinions.

I think it is not unreasonable to limit the inpatient benefits. We have found the fee-for-service systems that are set up generally coincide with the general and customary benefits covered through insurance, and the systems will tend to not individualize based on what people need. If you have a chemical problem, regardless of how chronic or severe it is, and if you get into one of the inpatient treatment settings, you can expect to be there 30 days. Day 1 this happens; Day 7 this happens -- and that is it. Just like a sausage factory.

The same holds in mental health stays. With the staff and programs (occupational, recreational therapy and all kinds of things going on), the system

hooks you. The length of stay then tends to be 30 days. We have taken some good cracks at that that I will not get into.

As to other approaches, we have negotiated discounts with treatment centers. Basically we do not trust the judgment of other people; we have our own staff of psychiatrists, psychologists, chemical dependency specialists, social workers, nurse clinicians. We do our own assessment and then we either provide the care that is needed or we arrange for it and purchase it in the marketplace. When we put someone in a hospital, it is our decision they have to go in and we have a time-limited authorization. We also then very aggressively follow the patient.

We cannot afford to have patients not get well because of ineffective treatment modes. If we do not succeed, we will have to reinvest money, time and energy to try to help that patient and our income is fixed.

MR. SUTTON: We could spend a whole day just talking about this last subject, because if you are not aware of it as far as your group health experience is concerned, you shortly will be. I might mention that our local study was very revealing. Some HMOs have their own internally developed chemical dependency programs and also negotiate with the various facilities. The analysis of the total expenditure in the metropolitan area showed that for HMOs 75% of their money spent was for outpatient treatment and 25% for inpatient. For insurance companies and governmental programs, it was 75% inpatient costs and 25% outpatient cost.

The challenge is how you as insurers can find someone like Bud floating around to control what is happening. How do you deal with it when you are not used to controls -- you just let the patient go where he wants and then you get the billing; if it is covered, you pay it. Insurance companies have a very difficult problem in this area.

Our last panelist is John Jacoby, the Medical Director of Honeywell. He is a specialist in occupational medicine and I have asked John to talk about how the HMOs, the competition in the health system, affect Honeywell. How does Honeywell react to it? How do employees react to the environment and what cost effects, good or bad, occurred to Honeywell as a result of what has been going on during the past five years?

DR. JOHN JACOBY: Thank you, Harry. Since we do want to limit the formal part of this presentation, I am going to talk very briefly about some of Honeywell's experience. I think the title of the program is Corporate Perspective on Controlling Health Care Costs. No question but what I could say all I know about this subject in the 10 minutes I am going to try to take. It is a very complex subject and there is no way we could cover it definitively in that amount of time. I am going to talk a little as Harry has suggested about some of our experiences from my own perspective. Just as there is no unanimity of opinion about how to control health care costs in this country, nor in the business community, there is no unanimity of opinion at Honeywell about how we should appraoch it or of the effects of what we have already done, based on findings of our studies.

I think that the following statement from the National Chamber Foundation Study report entitled A NATIONAL HEALTH CARE STRATEGY summarizes rather well the nature of our problem and provides some direction for business approaching cost containment. I quote:

> Business strategies aimed at cost containment will succeed only to the extent that they address the basic problems of the system - organization and incentives. What exists is a highly decentralized, fragmented system that lacks both market forces and incentives for efficiency. If the system's characteristics are allowed to remain unchanged, there is no reason to believe that the highly inflationary cost pattern will abate.

What our problem stems from has already been talked about quite a bit. Our system of medical care delivery is organized, and incentives have been built into it, to provide the health care professionals, physicians and other institutions, and the consumers of health care, inappropriate incentives toward use of the system. Also the lack of market force for competitive control in the system is certainly a very important aspect.

Another aspect of the problem involved and, perhaps, an even more important fundamental one is that we do not have in our country basic health care goals. Dr. Uwe Reinhardt, Health Economist at Princeton, in a recent article commenting on his twelve-year study of the American health delivery system, said, "There were little data available when I began, but I thought I had answers to the questions posed. After a dozen years of intensive research, participation on panels and councils, and access to infinitely more data, I am deeply confused. I am no longer able to offer remedies."

Dr. Reinhardt went on to recommend that we stop searching for technical solutions and begin examining basic health care goals. Without a definition of goals, or health care debate, he thinks the United States will continue to generate heat, but little light will be brought to the subject. Reinhardt further indicates that although health care costs have become a major problem in all western countries, in few was it caused primarily by sophisticated and expensive medical technologies and programs.

Europeans are much less troubled by the goals of their health care system. Europeans accept the goal he calls solidarity. That is, when it comes to health care, everyone is in the same boat. They have therefore been able to face the questions of budgets, allocating and rationing resources without the ethical dilimma we tend to face here of limiting availability of certain procedures on the basis of ability to pay.

In addition to difficulties with incentives and goals, I think we are also faced with a fact that increasingly the causes of our health problems in this society are to be found in our life style. The conclusion reached in the report of the Council on Wage and Price Stability, based on testimony of several experts, was that our self indulgent life style was to a significant extent related to both health standards and medical care costs.

Victor Fuchs in his book, WHO SHALL LIVE?, writes that "the greatest current potential for improving health of the American people is to be found in what they do and don't do for themselves." High cost, high technology medicine has concentrated on treating the late and end stages of the chronic degenerative diseases resulting from our modern environment and approach to life. It has been little interested and totally unable to mount effective programs for prevention or early intervention in these processes.

I think that gets back to the incentives that are built into the system. The financial incentives are not there for health professionals to approach

disease in that fashion. The result is that, while there is marked improvement in life expectancy at birth in this country in the 20th century (for example, it has moved from 52.8 years in 1900 to 67.7 years in 1970 for a white male), there has been very little improvement in life expectancy once an individual has survived the critical neonatal period. I think the main reason that it has improved at all in that area is through the control of infectious disease and other public health measures.

The life expectancy for a white male my age has increased a tenth of one year over that same period of time, and that is from 23.1 to 23.2 years. That increase came in the first decade of the 20th century.

There are still significant differences of opinion regarding the causes and solutions of the cost problem. I think there is general agreement that it is a very significant problem. I do not want to run through all that litany of the cost of health care, because you have all heard it. But, just a quick run at it: In 1979 it was probably $200 billion, 9% of gross national product, up from $39 billion or a little less than 6% of gross national product only ten years earlier. On a per capita expenditure basis, in 1950 the cost was a little more than $78 per person and by 1977 it was $736.

In a ten-year period, 1967-77, while wages were rising 98%, health insurance benefits went up 284%. For health-related workers, compensation and paid sick leave benefit costs went up 269% and 194%, respectively. Our experience at Honeywell has been very similar. Our medical care benefits bill (excluding dental care which is a significant addition!) has been rising at a compound rate of 15% per year throughout the 1970s. The cost of those benefits are up 300% in terms of both total dollars and cost per employee since 1972. I was just talking to our insurance people the other day and they are predicting they are going to double again by sometime early in the 1980s.

A study of Honeywell's medical care benefit picture was undertaken following a particular bad period we had in 1975-76. That study indicated we had a woefully inadequate ability to obtain accurate information regarding our health care benefit experience beyond gross cost figures. I think it is a continuing problem. We have difficulty internally keeping good statistics and we have a terrible time trying to get the kind we think we need for control purposes from insurance carriers and administrators.

We also found there was a marked difference in cost, from one Honeywell location to another. Even after our attempts to adjust for demographic differences, the range in costs was in the neighborhood of 100% from low to high. That cost difference after adjustment for factors of plan and population differences was correlated most directly to hospital utilization rates.

We found there were also significant differences in surgical rates and in the ratio of outpatient to inpatient surgery from one location to another. This difference has been found by other companies as well.

I think that gets back again to the subject we are discussing today, primarily incentives. HMOs as one mechanism may tend to change utilization of high cost inpatient services. Based on our own experience and understanding of the broader societal problem, we have concluded that our efforts at cost containment need to be broad based. We really do not have the answers but we need to look both to our internal benefits administration and benefits

design, but we need also to be more involved with trying to change the incentives in the system and to be involved in the community efforts and at a national level to control health care costs. I think one of our major tactics has been to provide and to promote HMO programs.

I would like to stop at this point and comment on some of the things that have already been said. I feel a little uncomfortable in that I often say the things that have been said, but it often happens after I hear someone else that I need to put some limitations on them. I think we do have a significant problem in Minnesota in the area of mental health and chemical dependency. Certainly our statistics indicate that, in our indemnity plan, 10% of admissions are in the mental health or chemical dependency area and roughly 25%-30% of our hospital days are for that purpose. I think certainly that is a problem.

The things that have been mentioned as ways to control them, if we are talking about individualization of diagnosis and planning for treatment, make sense. I am a little bit concerned when we talk about limits, in terms of lifetime benefits, number of visits, or all such approaches. That is in my view a typical benefits administrator, or insurance company, approach. I am afraid it can sometimes be counterproductive, because if you deny treatment, or interfere with appropriate treatment for chemical dependency and mental health, you will decrease the effectiveness of care. Any figures you may have to tell you what chemical dependency costs you will be misleading. In many parts of this country, the treatment of mental health and chemical dependency problems masquerades as something else. It inflates your general hospital/surgical benefits.

So with that little disclaimer, I am fully in agreement with the definition of the problem and that it gets back to incentives again. Hospitals in this area with excess beds have found a way to fill them up. The thing about chemical dependency and mental health treatment is once you get someone in the hospital you tend to keep them a significant length of time. Other places in the country that do not have such a supply of facilities are not necessarily better off.

Having become convinced that incentives were wrong, we did become part of the Twin City Health Care Development project in 1972 which was an organization of companies in this area trying to promote the development of HMOs. At that time, we offered only one HMO in Denver. We now offer 29 such programs in 24 cities around the country, and as of the first of this month, 61% of our employees in the Twin Cities are receiving their health care from one of the six HMO plans that we offer here.

Now that is the good news. We set out as an objective some time ago to promote this choice and I still have a very firm belief in the capacity of alternative delivery systems of this kind to help change the incentives, and particularly to change the incentives to costly inpatient treatment when outpatient services will do as well. We have apparently experienced a significant degree of adverse selection in the Minneapolis area. At least initially there was a fairly strong tendency for those employees who tended to be heavier utilizers of health care services to remain in our indemnity plan while those who were lower utilizers opted for the HMO. Blue Cross (and they are not a disinterested party) has studied this phenomenon. They reviewed the claim cost,of those who stayed with Blue Cross and those who left,during the contract year prior to the decision to leave, with the fol-

lowing results: At the May 1978 enrollment we had 30% of our population move into HMOs; the experience of the prior year in terms of annualized cost per employee per year was $650 for the total group during that year, $360 for those who left Blue Cross and $760 for those who stayed. About twice as much.

In May 1979, the following enrollment period, when an additional 15% enrolled in HMOs, the total group was again looked at. At that point the cost was $730 for the total group, $450 for those who left, and $790 for those who stayed. A bit of an improvement, perhaps less dramatic adverse selection but still very significant.

Since we are self insured and experience rated for the indemnity plan, and essentially on a fixed premium community-rated basis with the HMOs, this experience results in a significant overall increase in costs for the company. I might add that the employees who went to an HMO over the same period of time have realized significant savings. Even though the second year of the Blue Cross study indicated only a slight lessening of magnitude of adverse selection, we are hoping that as larger numbers of our employees went into the HMO programs the situation would tend to rectify itself. I still hope and believe that is the case.

I was somewhat disquieted, though, to read an article in NEW ENGLAND JOURNAL OF MEDICINE of May 1, 1980, entitled High Cost Users of Medical Care. In that article, the authors, Christopher J. Zook and Francis Moore, in a study of six Boston area hospitals, found that 13% of the total patient population (high cost utilizers) were using as much resources as the remaining 87%. Now if our employee group is like those in Boston, and if there is really a strong selection factor working, we may never recover from this wonderful thing.

One other fact that came out of that study, however, was that harmful personal habits, meaning primarily drinking and smoking, were highly correlated with utilization of health care as well. I think this latter result does indicate that hopefully approaches to the identification and appropriate treatment of chemical dependency and other high risk factors of that kind can be an important approach to the containment of cost. I think I have already mentioned that up to 25% of our total costs are in the chemical dependency and mental health area, and I think programs like Bud Larson's that do tailor the treatment program to the needs of the patient are the kind of thing we need to try to develop.

I would like to just conclude by going back to Dr. Reinhardt's assessment that we are involved in a very complex problem that does not lend itself to technical solutions. The more data and experience we accumulate, the less sure we become of the appropriate remedies. Dr. Reinhardt in that article ended by saying, "The most difficult problem goes back to the coupling of the private and public sectors in health care. We want the benefits of both, but don't know how to get them. What we need is an elegant algorithm for muddling through." In some ways I think we are quite a long way from the elegant algorithm but I think we have made some progress. Thank you.

MR. SUTTON: We have a few minutes left for questions for any of our panelists. In the HMO field, the delivery system tries to relate the mode to individual patient evaluation. How insurance companies can do this except for benefit design is a difficult question.

I think you can see from Dr. Jacoby's remarks that insurance companies cannot very often furnish data to the large corporate employer as to why the money is going where it is, or where it actually goes, or if it is well spent. This is something you as an actuary have to consider. You cannot address the problem of benefits design if you do not know how the money is being spent. Are there any questions for our panelists?

MR. ROBERT C. OCHSNER: I would like to add a couple of qualifications to the picture that was presented by Dr. Jacoby. Those are very interesting statistics but I think my experience with HMOs has been that in enrollment there are two characteristics that would argue against the interpretation of the numbers you gave. One is the strong patient affiliation with the provider. A doctor usually will not readily enroll in an HMO, and, therefore, with only one past year's utilization of health services, and since hospitalization will automatically pop the employee into the $1,000 plus annual expense category, you are probably measuring people that are just through a siege of hospitalization, at least to some extent, and therefore they are not as likely to enroll the following year.

The other thing we noted that there is a lot of enrollment among younger couples who have young children or who expect more. They are looking at the full coverage of the obstetrical expenses that an HMO offers which the typical insurance plan does not. Those people may have been relatively low utilizers the previous year, but they are likely to have a high cost the first year they are in the HMO which you might see in the HMO expenses. I think a multi-year study might be very interesting in determining whether those things kind of even out. I have trouble believing that you are really getting a phenomenon quite that skewed.

DR. JACOBY: I would fully agree, in fact, those are the kinds of arguments I used with some of our insurance and benefit people in Honeywell. I am not comfortable with the data that we have. I am not sure it is accurate, but there are a couple of other things going on which may be somewhat unique to this particular population. I think other studies have indicated, as you have, that if anything, higher utilizers go to HMOs, and I think that is true. In our situation, we tended to get, as you say, the younger people going and that tended to be our salaried population, which was a much lower utilizing group over time in the indemnity plan. The hourly people, being somewhat more conservative and slower to change, were also higher utilizers. We hope that is beginning to even out somewhat.

The other side of whatever has happended is we may have benefited because there is evidence that the HMO experience in Minneapolis is affecting in a slower fashion the pattern of delivery of health care in the area as a whole. We certainly have high hopes for that.

MR. SUTTON: Are there any other questions?

MR. DAVID W. KRUEGER: I would like to address Mr. Larson. We have worked with a social services network in Milwaukee and have a plan to obtain social services on a prepaid basis. We planned a kind of benefit package of diagnostic interviews, running four to six visits, and then the social services organization would refer for first treatment within the center or from community resources. Some of the problems have been how to estimate the cost of this; there is not too much data around. The only data we can get are from employers where they have their own in-house facilities. Another pro-

blem is how to define the providers. You know, the counsellors, psychologists; how are they to get approval? Have you run into this?

MR. LARSON: We have a contract with industry where they may send their employees. The company pays the bill and the current rate is $12 per employee per year. For that we will see the employee and any of his dependents and there is no limitation to the number of visits that we may conduct with them. Basically, our charge to make an assessment of what is wrong involves the individual and/or his family members in the development of a treatment plan and then to aid and assist them to get an appropriate resource for the resolution of the problem. At the point they get to "X" resource, the private insurance dollar takes over the payment. We have tried not to mix up prepaying treatment with that diagnostic referral component.

MR. SUTTON: Bud, I would like to ask one question. Does the structure of the insurance plan sometimes cause a problem?

MR. LARSON: Well, we have more problems with HMO referrals than we do with indemnity referrals, because in the HMO field some HMOs require in-house treatment, and so you may be limited in having to refer that patient back to an ineffective HMO service, but beyond that they have no benefits. In each of our offices, we keep track of what the insurance benefits are for all of the companies that we do business with. If we can track and know what the benefits are, we can use that in making sure we get patients to an appropriate spot where there are not going to be benefits. Also, we use our same staff and our same approach to make sure that it is a cost-conscious decision as to where they should go.

MR. SUTTON: One of the proposals in the Citizens League study, not yet published, is that they are going to ask insurance companies to break out their chemical dependency costs separately. Then it would be more possible for the employer to negotiate locally for a given plant location with a provider such as you, Bud, and let you handle it all locally on a much more integrated basis. Rather than have this insurer pay it out of Hartford or some other place, and have no way of dealing with the physicians or other practitioners involved.

MR. LARSON: Something I should mention, and I go along with what John was saying, is that you should not artifically limit the services. What you should do is provide those that are needed and then set a system and place to make sure people get what they need, but they do not get more, they do not get less. That is the trick of how to put that together. You are going to lose money if you do not provide adequate care, and if the patients are going to stay sick, you are going to have all kinds of problems. You have got to provide but to do it in a way that appropriately rewards the treatment efforts and insures that there is the help needed.

In mental health and chemical dependency, there is a significant degree of overlap. One of the problems across the country is that mental health professionals do not know much about chemical dependency. They continue to see people on and on when really the problem to be solved is their chemical addiction (and vice versa). Most chemically dependent people have been treated at one time or another by a mental health professional who missed the diagnosis completely. There is the feeling that the mental health people do not know what they are talking about. There is an overlap here where lots of people are inappropriately treated and there are lots of problems with that.

We try to compensate because all of our mental health staff is trained in basics of chemical dependency. We have a separate chemical dependency staff, but they are integrated under one roof and each has the appreciation of what the other can do. They are called in frequently for mutual consultation.

MR. SUTTON: Thanks to our panelists for an excellent presentation.

SOCIETY OF ACTUARIES

Minnesota HMO Premium Revenue and Enrollment
April 1980 (Dollars Annualized)

	Members	Revenue (Annualized) $ (000,000)
Twin Cities		
Group Health Plan	141,500	$ 52.8
MedCenter	65,600	21.5
Physicians Health Plan	61,800	25.5
HMO Minnesota (Blues)	46,000	18.4
SHARE	30,500	10.8
Nicollet-Eitel	16,500	5.6
Coordinated Health Care	4,700	1.9
	366,600	$136.5
Outstate		
Group Health, NE Minn.	9,000	3.4
HMO Minnesota	8,000	3.2
	383,600	$143.1

Twin Cities SMSA Population:	1,970,000
Metro HMOs' Enrollment as a Percent of SMSA Population:	19.0%
State Population	4,052,000
All State HMOs' Enrollment as a Percent of State Population:	9.5%

5-29-80

Minnesota Annualized Health Insurance Premiums
Top Four Carriers* and Minnesota HMOs**