

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1965 VOL. 17 PT. 2 NO. 48**

**MEDICAL CARE INSURANCE RATING AND
MEDICAL ECONOMICS**

Medical Care Insurance Rating

In the rating of group medical care insurance plans:

- A. What recognition is given to the effect on morbidity of
age,
geographic location,
industry,
employees' incomes,
basic benefits in connection with supplemental major medical expense
plans, and
rising medical care costs?
What consideration is given to rising medical care costs in making rate
guarantees for more than one year?
- B. How is the variation by size of group in the requirements for expenses and
experience fluctuations taken into account?
- C. In underwriting transfer cases, what reliance is placed upon the claims ex-
perience of the prior carrier and how is such experience evaluated?

MR. TED L. DUNN: At Provident Life and Accident we realize that all the items listed affect the cost of group medical care insurance plans even though they are not always recognized in manual premium calculations.

On basic plan medical care coverages the Provident uses an age loading which depends on the percentage of insurance on employees age 65 and over. If that percentage is less than 5 per cent, no loading is applied. The dollar amount of the loading also applies to the dependent basic plan medical care benefits, except on dependent hospital and surgical coverages where the plan provides for maternity benefits.

Premium rates for supplementary major medical plans and for comprehensive medical plans are usually adjusted for cost area and for income distribution of the employees as well as for age.

Our manual premiums for basic plan benefits vary by area only for hospital miscellaneous fees. A special loading is applied on supplemental accident expense benefits on California groups due to extremely high claims experience in that area.

In view of the rapidly rising medical care costs, we have not found it practicable to guarantee rates for more than one year.

CHAIRMAN L. JEFFERSON STULCE: How many of the companies represented here use age adjustments for basic medical coverage? (Six hands were raised.)

How many do not? (Four hands were raised.)

Would anyone care to comment on the use of age adjustments with respect to rates for dependent coverages?

MR. JAMES H. GORDON: At Massachusetts Mutual, on 95 per cent of our cases of under 50 lives, the contract rates are equal to the manual rates, while only cases of over 50 lives, both new issue and renewal, are subject to experience adjustments.

The manual rates for all medical care coverages except polio are adjusted for age. We have two different age tables—one for basic plans and comprehensive major medical and a somewhat steeper one for superimposed major medical. The maternity rates are divided by age factor instead of multiplied by it.

Both types of major medical are adjusted for geographic areas and income of the employees.

As in the case of age factors we also have two tables for income. The range for the superimposed table is from 85 per cent to 125 per cent of the comprehensive table. For geographic area we divided the country into 8 areas with the base rate for each area about 8 to 10 per cent higher than the preceding.

Basic benefit credits for superimposed plans cannot exceed 65 per cent of the base rate. Credits for company plans are a function of the base rate, while Blue Cross-Blue Shield credits are handled on a much broader basis due to the wide plan variance in the country.

We have adjusted rates each of the past three years and are this year introducing an area experience rating applying to all medical coverages. The country has been divided into three areas each 5 per cent greater than the preceding.

In regard to our underwriting procedures in cases of over 50 lives with respect to transfer business, we like to have the last three years' experience as well as coverage rates, premiums, and incurred or paid claims for each line of coverage. If this information is presented in what we feel is a legitimate manner—i.e., usually on a current carrier's letterhead—it is used as the basis for rating the case.

MR. FRANK W. LACKIE: I think those companies not taking into account age variations are going to find selection against them by the

groups that are higher rated. One method which worked very nicely for some companies is to base the age adjustment factor on the life rate. This could be done because the mortality and morbidity curves follow somewhat the same pattern, although the mortality curve is somewhat steeper.

MR. JAMES P. SMITH: I can't help but be surprised at the absence from the list of an adjustment factor for distribution by sex. At the North-western National we have found that for both employees and dependents, females require a significantly different set of age factors than do males. Ignoring this difference could lead to some serious selection on cases with an unusual distribution of female employees or dependents.

We began about two years ago putting age-sex factors into both the employee and dependent basic premium computations. We also investigated the possibility of a different scale of factors, male and female, for major medical as compared to basic. In spite of the obvious merits of different factors, practicalities did not seem to warrant this refinement. Therefore we compromised and used one set of age-sex factors. We have a different set of age-sex factors for maternity benefits and yet another set of age-sex factors for accident and sickness benefits (weekly loss of time). Although we have been trying to get rid of the latter, we have found that our competitive position does not permit this.

Although income factors are, I think, quite important, the absence of any real data on income results in a sheer guess in about 90 per cent of the cases. I think the most important factor has always been geographical location. We break ours down rather finely so that in certain states, we will have a higher factor for a particular city than that for the surrounding area. We have found this quite necessary, especially in the central portion of the country.

The use of these factors has caused two problems: (1) the work load of the calculation units is increased and (2) field men cannot quickly quote rates on plan variations in the field. We find, however, that using age-sex factors on dependent coverage has changed the type of group which we obtain. Going back to the issues of the past two to five years, we found a lot of cases that we would not have written, had we used a dependent age-sex factor. We believe this is the reason we were having trouble with renewal rates on some of these groups.

CHAIRMAN STULCE: This reminds me of the problems we have had because of our failure to adjust for age with our basic medical plans.

Our field people have tended to select against us by quoting comprehensive coverage on predominantly young groups to get the benefit of the

age credits at young ages. However, on predominantly higher age groups they have quoted the basic coverage to avoid the age adjustments.

Since so many companies have now begun age adjustments for basic coverages, I would be interested in knowing the reasons any of you have for choosing to stay with the flat scale. In other words, let's look at the other side of the coin.

MR. DEAN E. WILLIAMS: At General American we find ourselves in a rather interesting position at the moment. If we were not the first company to have age scales on base plan coverage, we were at least among the first companies. This was back somewhere around 1957 or 1958, when the market was not ready for them. Brokers claimed that they just could not get data on which to apply them. As a result, after about a year of experience, we withdrew them. However, shortly thereafter I recall that the Massachusetts Mutual came out with them and have had them for several years now.

It has now taken some seven to eight years to make the circle and now we find ourselves going back in because of the possibility of antiselection.

CHAIRMAN STULCE: Does any company adjust the rates for dependent coverage in the event more than 50 per cent of employees are females and the husbands are not covered?

MR. GORDON: Massachusetts Mutual does it if it is over 45 per cent. We have a special rate. In fact, the husband can be covered, but he is charged the age factor for the dependent rates which is usually calculated on the male employees covered.

MR. JOHN M. BRAGG: Life of Georgia uses a rather unusual discount system for group health insurance premiums. The discount is the sum of three items, as follows: (1) a discount depending on the total monthly premium in the group, (2) a discount depending on the average premium per employee, (3) a discount depending on the employer contribution to the plan.

For example, let's take a case with \$400 monthly premium, \$18 average premium, and with the employer paying 50 per cent across the board. The discounts are 2 per cent, 6 per cent, and 2 per cent, respectively, with a total of 10 per cent.

Group Life premium is included in determining total premium and the average premium.

The unusual feature of this system is the discount based on the average

premium per employee. A high average premium can usually be generated only by the presence of a generous group life schedule.

MR. WILLIAM C. WIRTH: Premium rates for group medical care insurance plans should be sufficient to cover: (A) Expected claim charges, (B) retentions (including risk charges and contributions to contingency reserves and surplus), and (C) margin for fluctuations and to allow payment of rate credits or dividends if experience is favorable.

In Life Insurance Co. of Virginia, where margin for fluctuations and rate credit has been arbitrarily set at a desired level, the risk charge formula and creditability factors are related to this margin by approximate statistical procedures.

To establish rates for cases without prior experience, we apply a discount or increase factor to our so-called "tabular rates." The tabular rates have been calculated to contain a 25 per cent retention plus the desired margin mentioned previously.

Our tables of discount and increase factors are "two-way" tables based on "number of employees" and "average premium per employee" for various coverage combinations. These tables produce a much more accurate allowance for retentions than the traditional type of premium discount table based on premium volume alone.

CHAIRMAN STULCE: I would be interested in knowing how many companies adjust their rates to reflect the percentage of employer contributions. (Four hands were raised.) My own company does, also.

Suppose the employer pays for all the employee benefits and the employee picks up the dependent's cost. How is this generally handled?

MR. DUNN: We have three volume discount tables at Provident. The first table gives the volume discount based on the number of insured employees and the average premium per employee. The second and third volume discount tables apply where the employer contributes a substantial proportion or all the premium, and slightly greater volume discounts are provided by these tables.

CHAIRMAN STULCE: What kind of rate differential is offered between noncontributory and contributory plans?

MR. GORDON: At the Massachusetts Mutual we give a 5 per cent discount on employer-pay-all cases. By the way, the A & H will be rated strictly on premium volume. Does anyone write employee-pay-all to any great extent?

MR. JOHN L. WAITE: At the Aetna we have been experimenting with a few cases, mostly in government cases, and we are doing it strictly on a trial basis with employee-pay-all. We have had about one year's experience so far and we find it is not entirely satisfactory.

MR. DAVID L. LIVELY: My only comment here is that volume discount tables should be checked against the company's current dividend formula. Otherwise some policies may have high retentions, low credibility, *and* large discounts. This combination might totally eliminate even a remote prospect of dividends on whole classes of business.

MR. BRAGG: At Life of Georgia we have a screening method which permits our field men to quote manual rates on certain definable "good" transfer cases. We require them to determine the health insurance loss ratio in the last completed policy year, on an incurred basis, as a percentage of our own standard gross manual rates. Then we permit them to quote manual premium rates if such loss ratio is below the following: 10 to 24 employees, 95 per cent; 25 to 49 employees, 85 per cent; 50 to 99 employees, 80 per cent; 100 employees or over, 75 per cent. The limit is, of course, higher for small cases, since these are the ones on which a one-year experience would not be very "credible."

Group field men are required to submit all cases not coming within these limits for home-office evaluation. Even when a case comes within the limits, the field men must submit it for home-office evaluation where special circumstances exist, such as known history of poor experience prior to the last policy year. Whenever home-office evaluation occurs, we place full reliance on the known claim experience.

MR. DUNN: When the Provident receives a request for quotation on transfer business, we require additional information if (A) the group includes 100 or more insured employees or (B) the group includes less than 100 insured employees and the present carrier has ever requested a premium rate increase because of poor experience.

The additional information requested usually includes the following:

1. Experience and charged unit premium rates by line of coverage for the last two full policy years plus as much of the current policy year as is available.
2. The claim data with a distinction between paid claims or incurred claims; also the present basis for claim reserves, if known.
3. The length of time the present carrier has been on the risk. We are not interested in groups which are "shopped" every year or two.
4. A copy of the master policy, a current booklet or the current certificate must accompany the request.

Since our field people have learned to live with our requirements, we have had reasonably good success obtaining the above information. We have found that a careful review of this information has usually enabled us to develop satisfactory data on transfer business. In many instances an indication of the experience level may be developed even on Blue Cross-Blue Shield groups.

CHAIRMAN STULCE: How many companies here *require* 10-year level commissions on all transfer cases? (No hands were raised.)

I understand at least one large company does, and perhaps a few others. How many companies usually *try* for level commissions? (Five hands were raised.)

MR. SMITH: We normally require all transfer business to have the 10-year 6.5 per cent level graded scale applied separately to life and health premium. If agents insist on higher first-year commissions, we have a 10 per cent, 3-year level graded scale to apply to combined life and health premium; after 3 years the standard 5 per cent graded renewal commission is paid, still combining life and health premium.

CHAIRMAN STULCE: How do those companies who require 3 years of prior experience in evaluating the experience on transfer cases actually interpret this experience? Do you give equal weighting for each of the three years or do you adjust for secular trends?

MR. HARRY E. CLARKE: At Crown Life we also try to get three years of experience. We load for secular trends approximately 5 per cent a year. We do not limit commissions to a 10-year average. However, we do encourage this.

MR. SMITH: In view of the fact that the available experience usually stops at a point in time six months or more in the past, we have found it desirable to add some kind of a trend factor to adjust for the age of the experience.

CHAIRMAN STULCE: How many of you ask for the impending renewal rating action on cases you are considering? (One hand was raised.)

Do you find that you can place much reliance in the information that you get?

MR. CLARKE: Not too much, unless we have quite a bit of detail. However, it helps to confirm trends relative to the claim ratio.

MR. ROLPH W. MASECAR: I have a question. How much below manual rates will a company go based on previous experience?

MR. GORDON: The State of New York says you cannot go below the claims set.

CHAIRMAN STULCE: We have hardly touched on the subject of rate guarantees for more than one year. Would anyone care to make any comments on this?

MR. WILLIAM E. MASTERSON, JR.: Connecticut General's three-year rate guarantees are for exactly three years for each contract. Any time after that and for business subsequently written there can also be a three-year rate guarantee but it may be on a different set of rates.

As to controls, with respect to the number of employees, we only provide a three-year rate guarantee for cases of less than one hundred lives. There are other requirements in relation to amount of premium, however.

MR. GORDON M. GRUBBS: It is a well-known fact that the pattern of morbidity by age is similar to the pattern of mortality by age, differing only with respect to the approximate age range at which the minimum rates are obtained. We assume, therefore, that the methods employed in recognizing the effect of age on group mortality can be used with satisfactory results in the age rating of group medical care insurance plans. At Southwestern Life we use two scales of age factors: One for group major medical insurance plans, and a somewhat flatter scale for basic group health coverages. The factor is a weighted average factor that is applied to the hospital segment of the basic hospital surgical medical plan, because we found this to be a more practical solution than the alternative of separate scales for each type of coverage.

Similar to our age scales, Southwestern has incorporated directly in the premium calculation two sets of area factors. The area factor for the basic plan is applied only to the hospital expense benefits other than room and board, whereas the area factor for major medical insurance is applied to the total premium.

Income factors are used only in the computation of major medical premium rates. On basic coverages the restricted dollar limits for various benefits will tend to dampen the effect an employee's income may have on the level of claims.

MR. ROBERT O. MARTINELLI: At Pilot Life our methods of grading initial rates for basic health coverages are probably rather crude. The effect of age is recognized only to the extent of splitting the insured group into those age 60 or younger and those over 60. A loading of approximately $7\frac{1}{2}$ per cent for each 5 per cent of the group over 60 is applied to all health rates except Surgical.

With respect to area ratings, we have studied the information available and have concluded:

1. Although to do a good job at area rating is very difficult, companies that do area rate are doing a better job than those that do not.
2. Because frequency problems and charges problems have different impacts on different coverages, separate sets of area rating factors should be used for comprehensive and basic coverages.

The effect of income on experience may be less than many expect, and it is quite possible that it is decreasing in importance. The vendors of medical care may well consider a man of moderate income with generous health insurance coverage to be almost as able to afford expensive care as the highly paid executive.

We have standard two years' guarantees for groups of fewer than 50 lives. In addition to loadings for extra expenses on these groups there is an explicit 5 per cent loading for the 24-month-rate guarantee. Guarantees and rates for over one year are rare in groups of 50 or more lives.

CHAIRMAN STULCE: With regard to transferred business, information regarding loss experience of a particular group under a prior carrier generally is made available to the prospective carrier in one of the following ways:

1. Information furnished to the policyholder by the prior carrier.
2. Information directly from the prior carrier.
3. Information tallied from policyholder's own records.
4. Information obtained as a result of filings in compliance with the Federal Disclosure Act.
5. Information obtained from a third party (agent of record).

The first two are usually reliable as long as it is clear whether claims information is on incurred or on a paid basis. The third and fifth require caution. The fourth can be of very limited value since the meaning of the figures depends on the reporting carrier's procedure.

Our experience has been that loss experience is available with respect to all but the small cases because most companies furnish such information to their policyholders.

Once the reliability of the loss-experience data has been determined, satisfactory analysis can be made if the following information is available:

1. A complete description of the plan that produced the prior experience.
2. Premiums and claims paid by line of coverage, for three years.
3. The average number of employees and dependents insured by class.
4. Unit rates by line of coverage.
5. Reason for change.
6. Participation.

With this information, the evaluation consists of developing our manual rates and premiums by line of coverage. An exhibit is set up showing premiums by current carrier, our manual premiums, and incurred claims, all by line of coverage. The exhibit then indicates the rate level we could afford.

In many cases, the full information desired for complete evaluation is not made available; therefore the analysis is made in total rather than by line of coverage. As long as coverages are not being revised, totals will provide meaningful results. Otherwise, it is important to know breakdowns by line of coverage.

MR. MARTINELLI: Nearly half the 17 questions on Pilot Life's "transferred business questionnaire" relate rather directly to the experience of the prior carrier. For groups of fewer than 50 lives, very limited reliance is placed on the experience figures, and tabular rates are generally quoted if there has been no increase in rates in the last two years and if:

1. The charged rates of previous carriers are not over 10 per cent above our tabular rates.
2. There is no indication that the change in carriers is prompted by an attempted rate increase.

Reliance placed on the experience of the previous carrier increases gradually as the size of the group under consideration increases. We try to get three years' experience by line of coverage and make allowances for plan revisions and rate increases during the period.

For large cases, it is considered worthwhile to make fairly elaborate adjustments to the available data when it is necessary to make past experience comparable to what might be expected for the plan being installed at the rates we intend to charge.

Claim Cost Control

- A. What claim cost control techniques have been developed to promote sounder insurance plans and claims administration?
- B. What has experience been in connection with the acceptance and administration of, and savings resulting from, nonduplication provisions?
- C. Has consideration been given to the possible effects on future claim costs of hospital planning, the establishment of utilization and review committees and similar developments?

MR. SIMONE MATTEODO, JR.: In the normal operations of a large group insurance company there are at least seven distinct facets to claim cost control:

1. Group claims personnel—this element usually carries the greatest responsibility because an experienced claims man is unsurpassed in discovering abuses and finding any weaknesses in benefit structures, if any exist.

2. Persons calculating and paying claims—these people should be encouraged to question borderline claim situations. In addition, a very effective control is to integrate the loss-of-time benefits claim administration with the other medical benefits claim administration. For example, have the people paying claims find out how long the claimant will be out and possibly contact the claimant's supervisor.

3. Medical doctors—for expert technical advice in some claim matters, it is desirable to be able to draw on the knowledge and experience of a medical doctor. They are also necessary for effective communication and enlisting the cooperation of local doctors and hospitals.

4. Accounting approach—separate accounting of premium and claims experience for locations of meaningful size will isolate problem areas.

5. Statistical approach—this is the area in which the actuary usually gets involved most deeply. Some of the more important items that may need watching: (a) The frequency and average duration of confinement. Also average confinement for specific causes. (b) The proportion of claims involving surgery. (c) Charges for typical operations. The results of a study may suggest a change in plan by introduction of a hospital deductible or increasing the surgical reimbursement schedule or the need to discuss the problem with providers of medical care in the community.

6. The nonprofit, nonduplication provision—this provision should minimize abuses from overinsurance.

7. Contract language—we may have to be more explicit in the policy in describing the scope of coverage provided; for example, definitions of hospital and physician. Here, because of changing medical practices and

specialization, we may be unknowingly covering many situations which are contrary to the policyholder's intention.

At the Equitable we offer comprehensive Major Medical as well as supplementary Major Medical with Base Plans. We were so harsh, however, with our comprehensive Major Medical premium ratings recently that we in effect tried to put our business on a Base plus Major Medical basis with the advantages of inside limits.

CHAIRMAN L. JEFFERSON STULCE: At Gulf Life we have on the market a plan having claims control as the main purpose of its design. The plan follows the general concept of comprehensive major medical in that its coverage extends across the broad spectrum of health care services and supplies. The controls are built in as internal limits, the more important being (1) a dollar limit on daily room and board charges, (2) a surgical schedule setting maximum reimbursement for surgical procedures, and (3) a dollar limit on physician's in-hospital medical care (no coverage for home or office). Co-insurance of 20 per cent and a Type "C" expense deductible act as further controls.

Under the typical comprehensive plan, an increase in room and board rates from, say, \$17 to \$19 a day would be immediately absorbed in the cost structure, and increased premiums will soon be needed. In our plan with a dollar limit on the hospital room and board, such an increase in hospital costs will not be reflected in the claims experience, if the maximum benefit is set properly, unless and until the employer *chooses* to liberalize his plan to provide higher room and board benefits. In this way the employer's costs are "controlled." When they go up, it is more likely the result of a deliberate decision to improve benefits—rather than an unavoidable, undesired cost increase occurring without any plan liberalization whatever and perhaps in violation of the employer's intent.

Also, employees are less likely to recognize and appreciate the additional benefits the employer is furnishing in the latter case, where there is not an explicit, deliberate plan liberalization.

MR. JOHN M. BRAGG: Life of Georgia commenced using a Coordination of Benefits clause on March 1, 1965, for all new group health business issued. All in-force cases coming up for renewal action on or after that date have been asked to sign an amendment incorporating the clause.

By asking them for acceptance of such an amendment approximately three to four months before the effective date and by providing an attractive explanatory brochure, we have been able to get the clause accepted by 73 out of 76 renewing cases. Our renewal rate action is 5

per cent less favorable on base plan coverages if the clause has not been accepted.

We do not yet have meaningful statistics on the savings resulting from this clause, but indications are that it is worthwhile. Records are being kept of the known savings, and we realize that there are also unknown savings.

MR. DON F. FACKLER: At Lincoln Life, our entire organization is convinced of the favorable merits of the Coordination of Benefits provision. However, for at least the present, this provision may be removed on cases over 50 lives with an additional 4 per cent loading of the disability premium.

Acceptance of the C.O.B. provision by our policyholders is almost 100 per cent; and I am convinced that if the savings are published to our policyholders that we will achieve complete acceptance. Furthermore, we have secured the approval of all states in which we are licensed on the basic concept of our coordination language, although minor differences in some states are necessary.

The C.O.B. claim savings during the months of March and April of this year were equal to 3 per cent of the claims paid. One large policyholder of the Lincoln is achieving savings approaching \$70,000 for the first year projected from the first six months of experience.

Because of lack of cooperation between carriers, particularly those who have not adopted C.O.B., claims administration poses as a big problem.

MR. MATTEODO: Out of about 500 of our medium and large policyholders that we contacted regarding the adoption of a nonduplication provision, only 15 per cent have rejected the provision outright; 33 per cent have immediately adopted it; the remaining 52 per cent can be classified as follows: (1) 17 per cent have collective-bargaining agreements that cannot be amended until the next union negotiations. Many of these groups have expressed their intentions to include the provision at that time. (2) 13 per cent decided to defer adoption until the next plan revision was made, feeling this would facilitate employee acceptance. (3) 13 per cent want to study it further before making a decision. (4) 9 per cent were major medical policyholders who have the old nonduplication provision and did not want to liberalize the benefit.

The amount of savings resulting from the adoption of this provision will vary widely from group to group. On some substantial size cases, we have reports of claim savings ranging up to 9 per cent, although the percentage savings is usually considerably less. On one of our very large

cases that has a Base Plan plus Major Medical coverage, there has been a known claims savings of about 3.5 per cent during each of the two years the clause has been in force. In addition to these known savings, the deterrent value of the provision has prompted some policyholders to adopt this clause.

The most common method used to reflect the savings has been through the dividend route. This approach reflects the wide variations in savings among different groups. When rate differences are used, they seem to range from 1 per cent to 4 per cent and are usually applied only to the Base Plan, since the Major Medical benefits have included a nonduplication clause for many years.

MR. PEARCE SHEPHERD: Speaking as the present chairman of the Health Insurance Council, I would like to impress upon you the amount of work that the Council, through its statewide, local, and national organizations, has done, particularly in connection with the nonduplication provision which is becoming effective. The Council, at the national level, has had some meetings with the American Hospital Association people and also the Blue Cross people. We are beginning to see a little bit more eye-to-eye with the hospital administration people. We are beginning to identify the problems that they see and that we must see in the insurance business if we are to maintain our position of being helpful to them in the covering of hospital costs.

There is no question about it—the nonduplication provision does interfere with the quick payment of claims to hospitals for coverage. It calls for hospital cooperation in deciding about duplication of coverage and who comes first and who pays first and also who pays second and how much.

Also, in relation to Topic C, I would like to say that the Council is very much interested in the question of future claim costs through hospital construction and administration and planning. Although it cannot give any financial support to it, the Council does strive to give support to the idea that area-wide planning of health facilities is essential if the costs are to be kept within reason.

Now for a little commercial—the Health Insurance Council has a small central committee, a small paid staff, but it has about 800 volunteers in the different states working at the local and state level with hospital administrators, medical societies, etc. We hope that your companies will give us the manpower at the local and state levels necessary to carry out the purposes of the Council for these long-range objectives which will likewise help you in the insurance business and the public generally.