

**TRANSACTIONS OF SOCIETY OF ACTUARIES
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GROUP INSURANCE

- A. To what extent is continuation of group protection for employees placed on leave of absence to enter the armed forces requested by employers or unions? How are such requests handled?
- B. What approximate methods are in use for estimating group dividend liability at statement dates?
- C. What problems are met in the underwriting of Group Hospital Expense insurance on a basis which guarantees either the cost of semiprivate accommodations or all charges for miscellaneous services, or both?

MR. R. D. BALDWIN referred to a January 1951 survey by the National Industrial Conference Board of the current practices of 169 employers in the United States which indicated that 90% are discontinuing group life insurance at or shortly after induction of employees into military service. His company recommends to United States policyholders that they consider discontinuing group life insurance shortly after induction, in view of NSLI. It is willing, however, to have the insurance continued subject to appropriate amendment to the policy, but no employer has yet elected indefinite continuance. For Canadians whose governmental benefits during service aggregate less than for United States military personnel no recommendation is made to policyholders as to whether to continue insurance or not and it appears that a number of employers will continue indefinitely. Where insurance is continued no extra premiums are being charged now, although it is anticipated that in the event of increasingly serious hostilities extras will be required where continuance exceeds a short period after induction, as in World War II. The system during that war involved a charge against dividends depending on experience among covered military personnel in all groups. During the worst period that charge amounted to approximately \$2.00 per year per \$1,000 of total insurance (civilian and military personnel) under policies covering servicemen, and it averaged \$1.00 per year per \$1,000 of total insurance for the whole period during which military personnel was covered. About 2% of United States and 40% of Canadian policyholders elected continuance during that war.

MR. J. G. MURRAY reported that in Canada there have not been many requests as yet. So far the Confederation Life has not charged any extra premiums, but if the problem becomes of greater weight they probably will follow a method similar to the one used in World War II. At that time employers were asked whether they wanted to continue the

group life insurance, and employers representing about 10% of the company's total group life elected to do so. They were required to pay extra premiums (originally set at \$100 per year per \$1,000 on enlisted personnel and gradually reduced during the war to \$30) which were eventually returned to each group after a deduction of that group's losses and a pro rata share of excess losses in the few groups whose losses exceeded the extra premiums. Thus the policy of having private insurance bear the war risk was carried out, although in effect the policyholders insured themselves against the war hazard, with the insurance company acting as the central agency without gain or loss except for the additional expense of handling the extra premiums. The program was well received by policyholders and seemed the most practical since the risk could not be satisfactorily forecast.

MR. W. S. THOMAS said the Metropolitan is at present permitting continuance of group life insurance at the same premium rate as that applicable to employees remaining at work, but it reserves the right on one month's notice to discontinue or change the arrangement or to charge an extra premium, as to insurance continued beyond the leave of absence period stated in the policy. During the last war an extra premium of \$5.00 per month per \$1,000 was charged for those in service, although it was reduced toward the end of hostilities to \$4.00, no total or permanent total disability coverage being allowed. Continuance of dependents' hospitalization and surgical insurance is permitted, but the employee is asked to complete a form authorizing payment of the benefit directly to the dependent. Where a new plan is being installed or an old one revised, it is desirable to permit the employees in service to enroll for the new plan with respect to their dependents, a special enrollment time limit being allowed to secure their elections.

MR. C. R. ASHMAN said the Lincoln National had announced a definite policy after numerous requests. Dependents' coverage may be continued, but because of the possible development of administrative problems a one-year limitation is applicable initially. For the employee, only life insurance may be continued, but in view of NSLI continuance is not recommended. Further, it is indicated that continuance of life insurance would require an extra premium estimated at \$50 per \$1,000. Such extra premiums would be pooled, the excess over claims to be returned to, or any ultimate deficiency to be assessed against, the groups involved, on an equitable basis.

MR. T. H. KIRKPATRICK reported that, in The Paul Revere Life, employee insurance is discontinued but dependents' insurance may be kept in force at the employer's option. In one instance the employer

wished also to continue the employee's Group Life Insurance, even though it was explained that the cost could not be determined. The initial rate was set at \$5.00 per month per \$1,000 after four months in military service.

MR. A. M. KUNIS stated that the United States Life has decided to continue on a *temporary* basis the Group Life coverage on employees who enter the armed forces. This takes the form of a voluntary three-month extension without an extra premium. The Hospitalization and Surgical coverages for dependents of employees who enter the armed forces will also be continued for a period of three months at standard rates. The employer must specifically request the extension and must pay the full premium unless he is continuing the salaries of employees in service and can handle employee contributions through deductions. The Company reserves the right, upon thirty days' notice, to cancel the coverage or to charge an extra premium.

MR. C. E. PROBST felt that objectively the insurance company should advise against continuing group life insurance, but employers often want to continue it in order to do as much for the employees as they can and because NSLI does not always fully take the place of group insurance in providing extra protection for the unexpected hazard of military service. This is especially true where group insurance has been obtained by a veteran who has been continuing his NSLI, for he will not be entitled to more governmental insurance nor to any free benefit that Congress may decide to provide instead of NSLI. In any case, it is important to have a full discussion of the possibilities with the employer and to warn him of the embarrassment of having to discontinue insurance during military service should the risk become great.

MR. H. E. DOW reported that to avoid handling individual inquiries the Prudential put out a circular letter stating that continuance of Group Life would be permitted, subject to possible premium increase, but advising against such continuation except for a short period after induction. Returns were received from 3,300 groups representing 97% of those circularized. By number, 2,900 selected an immediate termination, 230 a continuation from one to three months, 30 from four months to one year, and 140 an indefinite period. That the larger groups were generally more liberal was indicated by results weighted according to in-force where 23% of the coverage provided continuation as against 12% by case count.

All those discussing section B outlined methods that are closely similar in principle. The few large groups that account for a high percentage of the liability are segregated and a separate calculation is made for each. In

companies represented by MESSRS. WAGENSELLER, GINGERY, and KUNIS the calculations are in the nature of approximate application of the dividend or retroactive rate credit formula to the estimated premiums and claims for the group, with various short cuts being used.

MR. A. G. WEAVER'S company, the John Hancock, applies the formula:

$$\frac{A}{365} \{P - C - R\}$$

where

A = number of days January 1 to the policy anniversary

P = estimate of earned premium for current policy year

C = estimate of incurred claims for current policy year

R = estimate of retention by Company for the current policy year.

In all companies reporting, the remaining policies are handled by bulk calculations using average dividend or "total return" (claims plus dividend) rates for various forms of insurance, with appropriate adjustments for changes in the dividend or rate credit formula and for trends in general levels of claim rates.

MR. L. S. WAGENSELLER pointed out that in the Metropolitan the quantity sought is the amount of dividends which have accrued under policies from their last anniversary up to the statement date and therefore in the bulk calculation (for all groups having yearly premiums of less than \$250,000 each) it is necessary to determine what part of the aggregate premiums and claims for the prior 12 months should be used for application of the average rates of dividend. For this purpose premiums and claims for each calendar quarter are subdivided into portions attributable to policies in the bulk calculation whose anniversaries fall in each of the four quarters and are further subdivided for each quarter as to cases with anniversaries in that quarter into preanniversary and postanniversary experience. Then by selecting from the 20 resulting subdivisions the ten which relate to postanniversary experience, a summary is made of premiums and claims for application of average dividend rates. The subdivisions of each quarter's data are made by applying ratios of premiums in force obtained by sampling processes at intervals of two or three years, and a uniform average loss ratio is assumed as to all policies in a given category. The work lends itself readily to a continuous process carried forward from quarter to quarter on a fairly routine basis, and is integrated with the derivation of average dividend rates for completed years ending in each calendar quarter.

MR. KUNIS stated that the United States Life groups cases with less than 1,000 lives by *effective* number of lives modified to take into account differences in schedules of benefits. Experience retention percentages broken down by coverage and by effective number of lives are then applied to estimated premiums to obtain the liability for retroactive rate credits. These retention percentages depend on such factors as average premium per certificate, number of certificates, type and number of coverages, policy duration, mode of accounting and combinations of coverages for experience. Illustrative percentages are shown in Table 1.

TABLE 1

EFFECTIVE NO. OF LIVES	LIFE	RETENTION PERCENTAGES	
		Accident and Sickness	Hospitalization
Under 50.....	54.5%	59.3%	56.5%
50- 100.....	42.6	48.6	44.8
100- 250.....	31.2	37.3	36.5
250- 500.....	23.3	30.5	28.5
500-1,000.....	19.8	25.4	24.1

In MR. GINGERY'S company, the Prudential, the method for small groups depends upon the completed experience for policy years ending during the first 8 months of the calendar year. That experience is projected to obtain the amount of premium expected for subsequent policy years and the ratio of premiums for policy years ending in the last full calendar year to those for policy years ending in the first 8 months of that year is then applied to the resulting projected premiums, with subdivisions by size of group and coverage to improve accuracy. After inspection and adjustment for over-all trends, dividend percentages are applied, these percentages having been obtained from the experience of policy years ending in the first 8 months of the current calendar year with adjustments for trends and changes in the dividend formula, etc., and with adjustment in the total liability for the effect of new business. It appears that the object here is to obtain a total of the full dividends to be paid during the next calendar year rather than merely the portion thereof accrued up to the statement date.

The method for handling the bulk calculations for the smaller groups described by MR. A. G. WEAVER utilizes punch-card records of dividend experience of the latest 12-month period. Average dividends paid as a percentage of premiums are obtained for each desired type of cov-

erage, duration and size of premium. These dividend factors are ganged-punched into work cards showing the duration at the next policy anniversary for each policy. An estimated dividend is calculated mechanically by multiplying earned premium by the dividend factor. The results are then summarized by renewal months and the liability estimated by taking 23/24 of the amount for the January estimated dividend, 21/24 of the February estimated dividend, and so forth. Special adjustments are required to account for first year business, to reflect the actual aggregate earned premium for the year, and to allow for changes in the dividend formula and in the level of claim rates.

MR. C. A. SIEGFRIED pointed out that some people feel that, contrary to present general practice, policies issued by insurance companies should undertake full reimbursement of hospital bills. This sentiment stems in part from the apparent full coverage by Blue Cross plans, although in fact there are various limitations in them so there is greater similarity of results than is often recognized. In response to the demand for a fuller measure of complete coverage, the Metropolitan has undertaken a small number of experimental plans under favorable circumstances. Two old policies have been rewritten to provide full semiprivate care up to 70 days, both being located in small cities where rates and practices of the hospitals involved are easily observed. Several other plans, while limited as to room and board benefits, have unlimited allowances for other charges incurred during the period for which room and board benefits are payable. All are too new to have developed significant experience, although no serious problems have arisen so far.

For general issue of full service plans, it is very difficult to make the necessary forecasts of charges which will be incurred because:

1. Hospitals differ in whether they directly provide and charge for such miscellaneous services as ambulances, anesthetists, roentgenologists, blood transfusions and use of orthopedic appliances.
2. Bases of hospital charges differ. Some hospitals use all-inclusive daily rates (with occasional exceptions for certain services), and many use specific room and board charges (but with variations as to what services are included therein) and specific charges for other services as performed. Also, there are often variations in the charges for ancillary services depending upon the class of accommodation used by the patient.
3. There may be several dollars variation in rates for different rooms in nominally the same class of accommodation, and there is danger that insured patients would, on the average, be quartered in more costly accommodations than others use. Also, the fact that we are in an era of rising hospital costs will be reflected in hospital charges.

4. There is potential abuse in utilization of hospital services because for some procedures there are no clear-cut, objective standards for determining when their use has real medical value and when they are in the nature of a medical luxury. Unless some type of control can be established there is a feeling that there will be greater utilization of hospital services in cases where insurance is available to pay the full cost.

It also appears that satisfactory operation of plans of this kind requires good mutual understanding between insurers and hospital management as to the methods and problems of each other. This is difficult to accomplish because of the large number of hospitals and insurers. A large amount of intensive work will be necessary before there can be assurance that plans of this general type can be undertaken with reasonable hope of success. In the meantime, some form of coinsurance device probably will be needed to discourage excessive utilization of hospital services and keep costs within reasonable bounds. The matter is of considerable importance to all concerned and deserves continuing attention.

MR. T. H. KIRKPATRICK reported that the claim rates of several groups carried by his company which pay all hospital extras (but have limited room and board allowances) have not differed appreciably from those of other groups with a high limit on extras.

The problem of providing hospital plans covering full semiprivate care is very difficult and involves the following important underwriting factors:

1. The employer must understand the basis of the plan and be prepared to take local action to control abuses. To assure his interest he should be required to pay all, or a large percentage, of the cost.
2. Groups should be large enough (200 to 500 employees) to have relatively low expenses, so as to justify experimenting, and to develop reasonable claim rates quickly.
3. Even though the average hospital charge for the employees involved cannot be determined precisely, it must form the basis of premiums.
4. Careful attention must be given to underwriting factors such as age distribution and industry. The plan should be offered only as a part of a package of benefits in order to provide larger exposure and low expense rates.

Special problems will be met, such as the abuses and discrimination against the plan by doctors and hospitals. They can be controlled in individual cases, although a good deal of underwriting judgment is required. Any situation that would cause trouble under a standard plan would be doubly troublesome under a semiprivate full care plan. Mr. Kirkpatrick agreed that this type of plan can be generally offered only after we obtain working agreements with the hospitals. This will take much time because of the differences in background, methods of operation, etc. In the mean-

time we should become better acquainted with hospitals and should continue to experiment with semiprivate plans. All parties have a vital interest in evolving sound plans on a group basis.

MR. E. A. GREEN put forward the proposition that since under an insurance contract having dollar benefits and dollar premiums it is necessary to measure the risk in dollars, one of the fundamental questions as to the type of coverage under discussion is whether the risk can be made measurable in dollars. Insurance of the full cost of semiprivate accommodations, as contrasted with providing a set dollar benefit, requires some degree of stability in charges for hospital services as well as in the frequency and extent of their use. At best the cost factor will be influenced by general price fluctuations. It is important to devise means of bringing together the interest of patients, doctors, hospitals and insurers in maintaining the required degree of stability in this factor. All have an interest in raising standards of hospital and medical care, but improvements increase costs.

Blue Cross organizations have been able to offer coverage of this general type, although narrowed in some aspects through certain restrictions, and measure the risk in dollars primarily because of agreements with hospitals as to amounts which the hospitals will take as reimbursement for services. Some agreement or basic understanding with the hospital involved is essential if insurance companies are to secure stability and avoid substantially higher costs for services than would be encountered if the insurance were not present. It has been demonstrated that where there is no element of coinsurance by the patient because full costs are paid, utilization of services is greater. In order to reduce the danger of overutilization it would be desirable to have the level of utilization of hospital services rendered individuals insured under service type plans related to that of patients as a whole. This could be accomplished, as under some Blue Cross plans, through the establishment of a per diem charge based on average costs. Recognizing that the hospitals are entitled to reimbursement for the costs which they incur in connection with insured patients, these rates would be subject to adjustment from time to time as costs of hospitals change, but since such adjustments would affect premium rates there would have to be agreement as to how and when adjustments could be made.

Mr. Green described the formation and initial activities of a committee of the Health Insurance Council recently formed to study this general question. It has found considerable variation in the attitude of hospital administrators toward commercial insurers, and it appears that if plans are to be written under agreements or understandings with hospitals they

will best be effected at the local level, although it would be desirable to make arrangements on a broader base than so far effected in a few cases, *i.e.*, between individual hospitals and single insurers or policyholders. Possibly something analogous to the doctor-sponsored surgical plans is an answer. The committee also found that there is a deep-seated feeling in hospital circles against doing anything harmful to Blue Cross, but it is Mr. Green's opinion that, whether the commercial insurers offer service-type plans or not, Blue Cross will continue to be a very large writer of hospitalization benefits and that the interests of the insurance industry in having this so should not differ materially from those of the hospitals, since true competition on an equal basis is the very fundamental of the private enterprise approach. As Blue Cross has developed it is covering many of the same general class of risks as the commercial insurers and it would not seem to warrant or need subsidies any more than would the insurance companies. He pointed out that the more than 34,000,000 customers of Blue Cross and the more than 33,000,000 people covered by insurance company contracts are all potential patients of the hospital and that there is a common interest in providing for these people the best possible protection and services for which they are willing and able to pay. He believes that progress can be made through the cooperation of all in developing and offering coverage, whether service-type or otherwise, to meet the demands of the insuring public at reasonable cost on a truly competitive basis.

Although MR. C. R. ASHMAN'S company, the Lincoln National, has quoted on a number of service type plans, it has written only one with full service features. This plan has a rather generous over-all dollar limit for each disability, without other restrictions as to amounts allowed for various hospital services except that if the patient is confined in a room with fewer than three beds the allowance for room and board is limited to \$8 per day. The case is a substantial one, about 2½ years old, and has turned out reasonably well. Two other groups providing for the full cost of miscellaneous services (but with room and board allowance limited) are too new to be significant.

In generalizing, Mr. Ashman pointed out that service type plans make it necessary to know the level of hospital charges in areas where the plan will operate. Even then, the question of whether the insurance company can maintain initial rates in the face of rising costs makes it advisable to warn the client that stability of price cannot be counted on. Mr. Ashman further concurred with Mr. Siegfried as to the danger in overutilization of costly hospital procedures and agreed that a coinsurance feature would have a salutary effect. He felt, however, that such a feature would not be

generally acceptable and that the only hope of safety is in a closer relationship between the medical profession, the hospitals and the insurance companies. He stressed the necessity for carefully selecting groups to be offered full payment plans and the necessity for continuing to search for satisfactory solutions to the challenging problems of providing valuable service to the public in this field.

MR. J. P. DANDY pointed out the difficulty in obtaining sufficiently accurate information and projections as to the cost of semiprivate rooms, in view of the variation from one hospital to another and of the increasing cost trend. He believes, however, that it is practical to underwrite full payment for wards of 3 or more beds because there is less variation in charges therefor—with fixed allowances for semiprivate and private rooms. He also believes that plans paying unlimited amounts for miscellaneous services can be underwritten quite safely because they are not much more costly than the many recently written with limits of \$400 or \$500. The rare cases of overcharges or abuse by hospitals can usually be corrected through the employer or the union.

Mr. Dandy agreed with previous speakers as to the desirability of working out arrangements between companies and hospitals for full service plans at agreed daily benefit rates, and he stated that until that is done the insurance business will not be able to do its proper part in providing adequate insurance.

MR. C. G. HILL expressed the view that the basic problems are first to determine the liability and then to sell the coverage in competition with Blue Cross. To guarantee full service without definite understandings with hospitals he feels completely unsound and, in contrast to Mr. Dandy, he laid greater emphasis on the dangers in uncontrolled cost of ancillary services than on room and board costs. In his opinion, the undertaking of an unknown liability for a fixed premium, as is now apparently being done as to ancillary services in some group plans, will have the effect of seriously complicating the development of comprehensive coverage on a sound basis and at reasonable costs. While the increasing use of diagnostic procedures, blood, plasma, expensive drugs, etc., is reducing the average period of confinement, it is causing a substantial increase in the level of hospital charges; and lack of limits on reimbursement, or of agreements as to hospital charges, will presumably encourage increased usage on a basis providing a good margin of profit for the hospitals.

Sound approach therefore lies in agreements by the hospitals to accept an all-inclusive per diem reimbursement formula. It appears from an article in the January 1951 issue of the *Journal of the American Hospital*

Association that much of the success of the United Mine Workers Welfare Fund has been due to the use of such formulas reflecting hospitals' actual costs of operation.

Theoretically it should be possible to secure agreements with hospitals locally for providing specified services at stipulated costs. As a practical matter, however, hospitals seem reluctant to enter into agreements, perhaps for fear of jeopardizing the competitive position of Blue Cross plans. The general increase recently in level of Blue Cross rates appears to be due not only to increases in hospital costs, but also to inadequacy in the per diem allowances for Blue Cross patients. This has caused hospitals to overcharge other patients to recoup losses on Blue Cross patients, a practice many hospitals would like to discontinue. Mr. Hill therefore feels that with the cooperation of the American Hospital Association the insurance industry has an excellent opportunity to work out methods of providing comprehensive hospital expense insurance on a group basis which will both meet public demand and satisfy hospital officials.

MR. D. H. HARRIS stressed the effect of inflationary forces on hospital costs for room and board, and in turn on the insurance company's liability under full reimbursement plans. In the absence of contracts with hospitals, which seem impracticable to effect at present, companies must look to the premium provisions of policies for safeguarding full reimbursement plans. A conservative approach suggests that the raw average of room and board charges of hospitals likely to be used under a plan be increased somewhat, to anticipate increasing costs, in determining premiums. Furthermore, the initial premium guarantee period may be made shorter than usual to permit the insurer to keep more closely abreast of changing conditions.

Alternatively, Mr. Harris suggested guaranteeing the rate per dollar of benefit for a year but providing for redetermination of the first year's aggregate premium retroactively on the basis of the actual average hospital charges experienced. In this way the insurer takes the usual risks on frequency and severity but avoids the element of insurance against inflation. No matter how premiums are fixed, the employer must understand the open end nature of the undertaking and must be prepared to stand cost increases.

Inflationary effects as to ancillary costs, as distinguished from room and board, are equally serious. However, Mr. Harris suggests that ancillary costs should keep proportional to room and board, allowing the latter to be the key for premiums. Yet, in concurring with other speakers as to dangers in unlimited ancillary benefits, he feels that the coinsurance

principle, with the insured paying say 25%, should be introduced for these benefits after a relatively low level of benefits reimbursing in full (15 or 20 times the daily room and board benefit) is exceeded.

MR. A. M. THALER said that although the Prudential has successfully operated this type of plan (one on their own employees) for some time, they are much aware of the problem of inflation discussed by Mr. Harris. He mentioned one case where hospital rates rose 10% to 15% between the date of quotation for the group and the date it was assumed. His company has tried a device like that suggested by Mr. Harris permitting adjustment of the average benefit assumed for premiums at frequent intervals, but it is not always practical in union bargained cases because they require fixed premiums for a year. An increased rate anticipating cost increases over the next year has also been tried, but no matter what is done the insurance company is selling services instead of benefits, and the customer, although he may think he has a fixed price, is going to have to pay more each year. Yet, the demand for full service plans will force us to face these problems and do something about them.