

D382 DISCUSSION OF SUBJECTS OF SPECIAL INTEREST

General

A. Expense Trends

1. What has been the recent trend in group insurance expenses? Have acquisition expenses increased more or less in proportion to renewal expenses? What modifications in group insurance retentions have been necessary as a result of these recent expense trends?
2. In determining retentions and hence experience rating refunds, what principles are followed in allocating group insurance expenses between first year and renewal years?

B. Electronics

1. What has been the experience in designing and installing electronic data-processing systems for group life, group health, and group annuity business? What problems have emerged? In what areas have the largest savings been realized?
2. It has been suggested that basic differences between group and ordinary administration are extreme enough to require a redefinition of "consolidated functions" for group. What are these differences? Is a group "consolidated functions" plan practical and what should it encompass?
3. Are the advantages of a "real-time" system for group substantially more impressive than for ordinary (i.e., a system that instantaneously reflects changes in status and experience in the record of each contract)? Is it possible to design a magnetic-tape system that for practical purposes achieves the "real-time" concepts?

MR. DANIEL W. PETTENGILL: The recent upward trend in Aetna Group Insurance expenses has been caused by inflation, efforts to ward off government intervention, and the efforts necessary to keep business from switching to another carrier or to self-insurance. On the other hand, our investment in electronic equipment has begun to pay off in terms of lower home-office administrative costs. Whether acquisition expense has increased more or less than renewal expense depends on how these expenses are defined. If the costs of conservation are allocated to acquisition expense, the latter has increased more than renewal expense and vice versa. The savings from automation are primarily in renewal expenses.

The rising expense rate occurs at a time when competition is unduly severe. The only way retentions can be kept level is to reduce the risk charges. There is considerable evidence that this is the practice being followed by many companies. Actuaries should not forget that a risk charge is an essential element of any insurance contract. Without it, we cannot expect to accumulate sufficient funds to meet either the ever lurking catastrophic hazard or the hazard of experimenting with new forms of coverage to meet the ever changing insurance needs of the public.

My company has always followed the practice that cases on retention

accounting should be charged expenses as they are incurred. On our regular experience-rated group cases we spread certain extra first-year costs over a ten-year period. In view of the increasing amount of switched business, the validity of this ten-year assumption is highly questionable.

MR. JASPER E. MOORE: The Crown Life began early this year to plan the use of its 7070-1401 computer to service group business. We are using a "consolidated functions" approach and working on the first problem: to assess all operations which a system of group administration should perform. Our consolidated functions system has been operating successfully in ordinary since the first of the year and consolidates very substantially. The end-of-the-month final product is the increase in surplus, the Statement profit for the month. Our group computer system will, when implemented, blend into the ordinary with what we consider a total consolidated function design. This will produce a continuously revealing result, showing profit by line, by area, etc. We consider this a most meaningful product for management. For a company that cannot be classed with the giants, it is vital that the ultimate value be derived from a computer system.

Group contracts provide a wide range of benefits. We have to provide for discretionary activity inconceivable in ordinary. New concepts include pending-issue cases already subject to claim activity and agent compensation, and self-administered groups where only a recording of results enters the system. The group consolidated function system will involve a much greater proportion of catalogue content and a much smaller degree of complex logic than ordinary. The rapid development of new forms of group coverage and the fluid state of the group product has deterred planners. The development of new computers with increased capacity, such as the 7070, makes it possible to develop open-end programs that can be expanded to cope with future requirements.

A "real-time" system involves central storage of all records which are available instantaneously for reference, change or process. The daily inspection and processing of a tape master record will be our first approximation to such a system. Even with a limited degree of success, it is possible that the excessive use of self-administration will be less attractive.

MR. C. NORMAN PEACOR: In January, 1961, the Massachusetts Mutual began conversion to its IBM 7070 of group life and health insurance employee records and premium billing and accounting functions. This tape system has been fully operational since January, 1962. Claims accounting was converted in July, 1962, and commission payment and accounting as well as actuarial functions are now in process of conversion.

Our experience has indicated that the best results are obtained by reviewing, with an open mind, all administrative functions at the beginning of the project. The introduction of a computer system creates opportunities to improve administrative routines and effect cost savings. Typical was our conversion of all policies to a single billing day of the month, transfer of "10-24" policies to home-office administration, change of billing and commission payment methods from equal installment to exact computation, and amending policies to permit renewal rating-off policy anniversaries. Policyholders have co-operated readily with these changes, and many anticipated difficulties failed to materialize.

The major problem which has emerged is the handling of changes in an existing policy. We are reviewing this procedure with an aim toward mechanization, but many complex problems require solution. At present we "freeze" the computer system, extract all pertinent information from tape, make the necessary changes, and introduce up-to-date information back into the computer.

Savings are most difficult to measure. Insofar as we can determine, the immediate impact has been a little on the costly side or, at best, at a break-even point. We do expect that the computer system will handle future growth in the business much more efficiently than otherwise. Clerical savings are indicated in the areas of commissions and actuarial computations, where large amounts of automatic processing require little manual intervention. For example, the actuarial functions assimilate premium, claim and commission information, compute the actual dividend, and provide the Federal Disclosure Act information. A renewal rating formula has been developed so that all this information plus pertinent statistical data from other runs can be combined to produce the actual renewal rates for the new year. By effecting the renewal rates on a date other than policy anniversary, all the above computations can be performed at the same time. The computed rates, if accepted by the underwriter, become automatic feed-back to the billing system.

We have not yet fully explored the application of a similar electronic data processing system to group annuities. Variations in product such as funding mediums, benefit formulas, and reporting procedures give a lack of uniformity and volume which makes data-processing impractical. We have realized substantial savings over the past several years through use of medium-sized computers for calculations.

From the beginning our approach in group has been "consolidated functions." We began with the objective of supplying only four pieces of information to the computer: claim payment, employee change, premium collection, and new-issue data. Everything else would be output. Our sys-

tem has total communication between the various parts so that there is a tape-to-tape setup from one functional area to the next. This is almost a necessity in group. Any differences between ordinary and group revolve around the mechanics of processing rather than in difference in the philosophy of consolidated functions.

We have not explored a real-time system. It does not appear that group would realize the same potential benefits as ordinary. In group the insurance company is dealing with a third party, the employee, rather than the policyholder in many situations. With the removal of the insurance company from the insured, the ability to reflect change or demand information instantaneously does not seem to be advantageous.

MR. ROBERT G. PERRY: To the best of my knowledge, the Aetna Life was the first company to undertake a major group life and health EDP project (in 1957), and today essentially all accounting and many statistical functions are in production on a large-scale computer. We have recently commenced conversion to an EDP experience rating system with rather complex reserve and expense calculations, and almost all input is received directly from other EDP systems. To say that our experience has been eminently satisfactory is to overlook only one factor—it has been an extremely arduous task.

In the interests of brevity, I would prefer to enumerate the problems that have not emerged, such as shortage of profitable applications or excess of capable development personnel. However, in addition to the usual assortment of challenging situations, we can testify that there are a few peculiar to group—and they all revert to the importance of each policyholder, especially to the salesman. It is apparent that group is fraught with exceptions, but it is not readily apparent that these exceptions are tightly woven into policyholder procedures. Nor is it obvious that the rate of change of group procedures follows an exponential function or that factors outside your own organization exercise a very major effect on EDP (i.e., competition and government).

I like to answer the question of where EDP produces the largest savings with, "the area where you're currently doing your worst job," but this overlooks the fact that the largest savings result from consolidating functions, and there must be a logical approach to the ultimate goal. I suppose we were like most others; initially, our largest savings came from routine high-volume applications such as premium and health claim accounting. As we progressed, however, we discovered that even larger savings result from reducing clerical operations to the point where areas formerly separate are combined (e.g., the many record-keeping, billing, and statistical operations related to so-called home-office administered policies).

This leads me into the question concerning differences between group and ordinary requiring a redefinition of consolidated functions. I do not believe that there are any really major differences. This is not to say that one would use the same approach to consolidated functions for group. The many exceptions and rapid change would seem to suggest a functional approach, otherwise you may never get off the ground. As to practicality, it occurs to me that no one has reached consolidated functions for group. On the other hand, we have already made a substantial five-year bet that it is practical, and we look forward to at least the next five years to prove it.

We have had no experience with or need for a "real-time" system, and we do not anticipate such a need within at least the next two years.

MR. FRANK J. ALPERT: The New York Life uses the 705-1401 complex for group claims, premium accounting, and statistics. However, smaller volume jobs can best be handled by a small-scale system involving the IBM 1620. I would like to describe this latter system. This system works best on jobs with little data handling in comparison with the amount of computation such as group annuity proposal calculations and annual valuations, group dividend calculations, and renewal re-rating calculations (which is done independently of the dividend calculation). Machine time is allocated among the three divisions, and each division has entire control of its machine operation within its scheduled time. Because the 1620 is relatively easy to program, each division has its own programming staff. Each division is therefore able to use programmers who are thoroughly familiar with the work to check and control the data used and to retain control of its entire operation.

The savings realized have been in reductions in personnel and increased accuracy. The remaining available machine time is used in research or one-time jobs, such as testing proposed rate scales.

We feel that the advantages of the 1620 have been well worth the considerable work involved. However, we have found that local use of a small computer has many of the same problems associated with major installations. The original programs were often too difficult to modify. Careful control on input data is absolutely essential. Since the operations are independent of the large-scale EDP system, much of the hand-prepared data requires careful checks. Another more subtle program has been the tendency of valuable technical personnel to become infatuated with the 1620 to the detriment of their other responsibilities. We also have to guard against a tendency to approach problems from what can be done on the machine rather than from what is the most efficient solution.

MR. JOSEPH T. BROPHY: The Prudential started over three years ago planning for calculating group dividends and commissions. We began here, although most companies started with premium and claim accounting for two reasons. These two areas involved the largest amounts of manual calculations and could produce fairly immediate expense savings. Because the long-range objective is to have output from all systems feeding into the dividend calculation, defining this calculation first simplifies planning the later systems. These two programs have been operating for over two years. We recently installed a health claim accounting system and are working on life claims and premium billing and accounting systems.

We have moved away from a consolidated functions plan because of the individual handling given a relatively small number of group cases as opposed to the bulk aspects in ordinary. We emphasize independently defining and programming each of the functions rather than programming each individual group case. Each system therefore involves a separate master file. With this approach we have experienced minor problems in tying our systems together. For example, there were some problems in maintaining consistency in record structure identification when passing an output to another system. Ultimately we will want to be able to generate changes to each master file through one program, but little planning has been done to date. With the exception of claim accounting, the systems are not designed to handle all group cases. About 5 per cent with unusual policy provisions are processed externally.

Our 705 commission and dividend systems have produced significant savings in clerical time. We expect similar savings from our recently installed health claim system, which is, incidentally, producing a generous supply of statistical studies. Computer running costs have generally been small in relation to development and maintenance costs. We have experienced less difficulty than anticipated in converting basic master file records and in training our clerical staff. Improvement in the accuracy of calculations and better service have been by-products. Research which was previously impractical is now available at little extra cost.

We have not thoroughly studied a "real-time" system, but we do question the need in group.

MR. JOHN T. BIRKENSHAW: The Confederation Life has 2,500 group life policies, most of which are billed directly from the company's head office. Certificates are in three languages—English, French, and Spanish. A group 705 system was undertaken only after a successful installation of a consolidated functions system in ordinary. The group system has

been in operation since May, 1961. We began with the billing functions as the area of largest potential savings and have since added premium accounting, policy status, certificate preparation, renewal calculations, and valuation. We plan to add commissions, experience-rating calculations, and health claims analysis. We expect our major savings in the billing and renewal functions.

The group master file is fifteen or twenty times as large as a corresponding ordinary master file—a serious problem from the point of view of computer space. The major problems involved the integration of self-administered contracts into our billing system. We now feel that the cost of self-administered and directly billed cases are significantly closer together. We have reduced our group administration staff from eighty to fifty-five people despite staff demands due to continued growth and the introduction of Provincial hospital plans. By-products of the computer include better scheduling to avoid peak loads and more accurate and more prompt billings to the employer.

In our opinion none of the differences between group and ordinary is significant enough to warrant a redefinition of the consolidated functions approach.

We have not looked into the question of “real time.” We do pass our health claim files once a week and other files four times a week and find this adequate for all purposes.

MR. DAVID H. HARRIS: The Equitable Society began in 1958 with the installation of a master group insurance statistical file. This gave a variety of case experience figures without manual posting and, as a direct by-product, summarizes for various purposes. Later in 1958 we began calculating group insurance dividends and projections on the computer. We are just now installing a link between the output of the statistical program and the input to the dividend calculation. In 1959 we began to use EDP for certain parts of our commission work, and we are currently extending this. In 1960 we introduced a claim summarization operation as input for the statistical programs.

The latest addition to the system is still on a pilot basis but will represent the largest single step. It adds premium accounting and analysis and a “master change” program that controls all the operations mentioned earlier. This is the key element in turning a series of partially independent programs into a single integrated system. An externally induced change will be introduced into the integrated system only once instead of separately into each of the subsystems.

We have made less progress in the group annuity field than in group

insurance. Dividend and other group annuity actuarial work make extensive use of the computer; and certain isolated functions relating to reserve calculations and inventories are in use. We are well along in developing an EDP system for general group annuity administration.

We are working toward full integration within each group system. For example, we expect that the group insurance system will do the billing, accounting, commission disbursement, dividend calculation, etc., each as one piece of the whole. Input from outside of the system will practically always be introduced at one point and applied automatically to each function as appropriate. If this is the concept of "consolidated functions," it would seem to apply equally to ordinary and to group despite the many dissimilarities between the details of ordinary and group systems.