The Actuary
The Newsletter of the Society of Actuaries
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GROUP MEDICAL EXPENSE INSURANCE —PROGNOSTICATION

By Clayton A. Cardinal

Editor's Note: We are pleased to publish this paper which was presented by Mr. Cardinal at the October 1975 *meeting of the Wisconsin Actuaries' Club. Perhaps it will encourage other clubs to submit papers presented at club meetings for possible publication in* The Actuary.

Beginning with the last quarter of 1974 and continuing into 1975, the insurance industry has experienced a financial deterioration in medical expense insurance. Although the adverse impact of increased rates of inflation has been an important cause in this deterioration, its primary cause has been an inordinate increase in claim frequency rates. Beginning with the summer months of 1975 individual medical expense insurance claim frequency rates have begun returning to more normal levels. Group medical expense insurance claim frequency rates, however, have remained high.

Why have group claim frequency rates remained high? What can be expected for the future? What management actions are appropriate? This presentation is one actuary's attempt to answer these questions.

Loss Toleration

When corrective actions to financial losses in individual insurance are ineffective, insurers tend either to withdraw from the market or to restrict their policies to such an extent that it can be considered as an effective withdrawal from the market. In recent years, there has been an increase in the number of insurers which have been unable to successfully manage their individual medical expense insurance, and therefore

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To All Our Readers,
A Happy New Year!
The Editors

American Academy of Actuaries

At the annual meeting of the American Academy of Actuaries in October in Bal Harbour the following were elected to the Board of Directors for a three-year term: Thomas P. Bleakney, Herbert L. DePrenger, Edward H. Friend, Stephen G. Kellison, Frederick W. Kilbourne, P. Adger Williams.

The Board consists of 18 elected members (one third of whom retire each year), plus the officers and two past-presidents.

Thomas P. Bowles Jr. took office as *President* at the close of the meeting, succeeding Daniel J. McNamara. The Board elected the following officers: *President-Elect,* Robert C. Winters; *Vice-Presidents,* Dale R. Gustafson, M. Stanley Hughey; *Secretary,* Walter S. Rugland; *Treasurer,* James O. Webb. □

P.L.H.

With this issue *The Actuary* loses one of its Editors, Peter Hutchings. Peter became an Associate Editor in 1969 and his has been a major contribution to *The Actuary*. His enthusiasm and sometimes pungent criticisms have also contributed to the morale of the Editors. We wish him well and say "Thank You" on behalf of the Society and of the other Editors.

ACW

ONE HUNDRED YEARS OF INSURANCE SUPERVISION IN CANADA

by Richard Humphrys

This year, 1975, marks the hundredth anniversary of the appointment of the first federal Superintendent of Insurance, July 1, 1875. During that period of 100 years, there have been only six appointments to the office including the present incumbent. Five of the six incumbents have been actuaries and, except for the first two, each had a considerable period of service in the Department before his appointment.

The first Superintendent, J. B. Cherriman, was a professor of mathematics and natural philosophy at the University of Toronto.

Professor Cherriman, a graduate of Cambridge University, had been on the mathematics faculty at the University of Toronto for some years prior to his appointment. He was elected a Fellow of the Institute of Actuaries in 1875; The *Jornal of the Institute* publishes a letter from him in the volume for 1871.

It fell to Mr. Cherriman to organize the supervision of insurance companies in Canada, both life and non-life, and he had much influence on the first comprehensive supervisory legislation applicable to life insurance, adopted in 1877. Many of the principles then established are still basic to the pattern of insurance supervision in Canada.

Professor Cherriman retired in 1885 and was succeeded by William Fitzgerald. Mr. Fitzgerald, a gold medalist in mathematics from the University of Toronto and a holder of a law degree, held the post until 1914, a period of some 29 years. These were years of great change and development in insurance supervision in Canada. In the 1880's, legislation was adopted controlling the activities of

(*Continued on page* 8)

The Actuary

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EDITORIAL

BY NOW, many of our readers have encountered a little item called Form 5434. This is the catchy title for the paperwork involved in joining a brand-new union called "Enrolled Actuaries". Even by government standards, this form is extraordinarily nosey. In addition to asking after society membership (which makes sense) it requires information on formal education and age (which makes less sense). The rest of the form then asks after a 15-year resume (sense) to include salary history (nonsense). One would think that the government would be cutting back on these kinds of data banks in today's climate rather than adding to them.

Notwithstanding the paperwork involved, we are sure that many of our readers will seek to become Enrolled Actuaries. One possible reason is to solve what the Army used to know as mail-call blues. It is probably premature to predict precisely what the junk mail volume of an Enrolled Actuary will be. However, more cautious members may wish to buy an extra mailbox while the supply lasts.

There are additional reasons to join this union, of course. Consider the alternative: Who would want to be an Unenrolled Actuary? Herman P. Snodgrass, ASA, UA would form a rather distinctive signature block. There are other possible new designations as well. Suppose you are short on responsible pension actuarial experience but qualify in other respects . . . in other words, you're an almost enrolled actuary. There should be lots of these; the logical initials are AEA.

The other side of the AEA designation is, of course, the JBEA — just barely enrolled actuary. An ASPA member who has spent his last three years knocking out side fund valuations for some General Agent is ideally equipped for the JBEA designation. (His agent's company's chief actuary, on the other hand, may well be an AEA.) Another candidate for JBEA is an actuarial program drop-out with several years in the pension department and a BA in math from some school that gives a six-semester course in life contingencies.

One final designation is the EAJIC. This is an FSA who hasn't worked in the pension field since the top integration level was at $4,800 and 4½% was a racy interest assumption. The letters stand for Enrolled Actuary, Just In Case. Only time will tell whether the JBEA or the EAJIC causes more problems for his client.

Elsewhere in this issue Mr. Levy learnedly discusses another part of the program — inundation of initials.

Only time will tell whether 5434 and its sons and daughters will be good for the private pension system. Let's hope so.

P.L.H.

UNRUH COMMITTEE REPORT

The Report of the Special Committee (Chairman Henry Unruh) on Valuation and Non-forfeiture Laws has now been submitted to the Board of Governors and the Board has authorized its release to the members.

The Committee decided that the Report should be restricted to *Actuarial Principles and Practical Problems with regard to Non-forfeiture Requirements* and further recommended that the review of valuation problems should be referred to another committee.

In the opinion of the Committee, the current non-forfeiture laws have worked well and the Report recommends that their basic structure should be maintained. Within this recommendation the report surveys the history and fundamentals of non-forfeiture benefits and deals with the many problems that have arisen in the operation of the current non-forfeiture laws. Certain changes in the non-forfeiture laws are suggested.

Copies of the Report will be maile[illegible] to the members in late January. This an important report and the Board is anxious that it be fully discussed by all members. Discussion sessions will be held at the Spring meetings in Houston and Chicago. Meantime, members are invited to put their comments in writing and send them to the Secretary of the Committee:

Charles Greeley
Metropolitan Life
1 Madison Avenue
New York, N. Y. 10010

These comments will provide a background for the scheduled discussions. □

Actuarial Meetings

Jan. 8, Baltimore Actuaries Club

Feb. 12, Baltimore Actuaries Club

Feb. 24, Philadelphia Actuaries Club

NOTE TO ALL CLUBS: *Please send us* [illegible] *schedule of your monthly meetings. We like to publish them 2 months in advance, if possible.* □

TO BE CONTINUED

Editor's Note: This article is submitted by the Committee on Health Insurance. Comments will be welcomed by the Committee and by the Editor.

Use of Small Computers in a Small to Medium Sized Group Operation (40 Million Premium Income)

by Russell Henry

Perhaps many Group Actuaries have become frustrated by their inability to economically computerize certain actuarial and underwriting functions. During the last 15 years they have no doubt watched their companies purchase large computer systems and automate their ordinary systems. A few may have ambitiously attempted to build major group systems on these large computers much to their financial regret.

In the past three or four years, however, a new breed of computers has arrived called "mini" or "small" computers. There is some difference of opinion over where mini's end and small computers begin. I am talking about a system in the price range of $15,000—$100,000. The equipment may include the following:

A Terminal with
- Keyboard
- Cathode Ray Screen
- Core up to 32K
- One or more Tape Cassette Drives

A card reader (standard IBM punch cards) reading up to 300 cards per minute. With or without mark sense capability.

A disk storage device with up to 10 megabytes capacity. May be floppy disk.

A high speed printer (up to 450 lines per minute). Thermal or metric dot.

A typewriter terminal.

Tape or direct line interface with larger computer system.

Under NAIC rules this equipment is depreciable over an 8 year period. The annual cost of equipment then is in a range of $1,875 to $12,500. Service, or a service contract, will add to this cost. Considering the salary and fringes paid to clerks these days, justification for most of this equipment is easily made if a net savings of one clerk can be realized. Due to the power of this equipment, such a savings is easily achieved.

Several models are available, such as Burroughs, Honeywell, DEC, Hewlett-Packard, IBM, NCR, and Wang (this is not an exhaustive list). Each has its own variations and characteristics including programming language.

In our case we chose equipment that had these two features:

(1) Equipment is modular — i.e., you can begin with small pieces and expand as you desire. We began with a terminal including 4K core and high speed printer but no disk or card reader. As we developed a facility with the equipment we quickly added 8K core, a combination punch card-mark sense card reader and a 5 megabyte disk. Several months later we added another terminal with 20K core which time shares automatically with disk and with printer by means of a manual switch.

(2) Programming language is simple basic language which above average clerks could learn and apply. We wanted to utilize clerks who already knew the work.

In two years we have computerized the following:

(1) Rate Manual calculations for renewal underwriting, actuarial testing, and about half of our field offices. We ultimately expect to have all manual proposals for the field in the system.

(2) All refund calculations and retention illustrations.

(3) Lag factor analysis used to produce casualty claim reserve.

(4) Asset share program used in developing group ordinary product.

(5) Matched up expense margin in our premium structures against actual expenses. (An impossible hand task).

(6) Several financial reports.

(7) Production reports and bonus calculations.

(8) A complete administrative system for Group Ordinary.

While accomplishing the aforementioned tasks we realized a net savings of three clerks or roughly $28,500 annually. We actually eliminated five positions but added two full time programmers. Our equipment cost was approximately $60,000 producing an annual depreciable cost of $7,500 plus about $1,500 in service costs. The equipment vs. people savings is $19,500 per year. The actual value, however, is considerably greater.

No one in our unit had other than a very limited knowledge of computers. Originally we were very conservative in our estimates of what we could accomplish. We have already achieved much more than we had hoped. However, we feel we really haven't scratched the surface and that a vast potential lies before us. We are now doing things we couldn't hope to do before, either because it was an impossible hand task or too costly to do on a large computer. Thus, this system has opened up new horizons in all facets of our operation.

Some of the obvious advantages of small computer systems are:

(1) Little or no communications problems. Persons already familiar with work do the programming.

(2) Turnaround time is fast. User has full control over output. Schedules are set to meet our own deadlines.

(3) Use of clerks at $750/mo. to program. Simple program language.

(4) One time programs for small project calculations feasible. Example: Budget use.

(5) Simple to debug as well as to make modifications.

(6) Working clerks are computer oriented. They see more uses than might otherwise be seen.

(7) Jobs can be done which are not financially feasible on large equipment.

(8) Being totally user oriented output easily used.

Small computers provide a major breakthrough to the traditional centralized system equipped primarily by large computers and run by computer oriented personnel at a very high cost. With their power and simplicity, they provide an economical de-centralized line oriented facility controlled and run by line oriented personnel. This produces maximum operating efficiency and flexibility.

While our application is limited to the group area, the key elements make small computers practical in any line of business and any size company for types of work not economically justifiable on large scale computers. □

Deaths

Coll C. Sinclair

COMPETITION No. 5

Clara Who?

In announcing the results of Competition No. 1, we threatened to have a clerihew contest. The time has come. Our limited experience with competitions has taught us that poetic competitions have greater appeal and that poetic discipline is sorely needed among our readers. We start with the loosest of verse forms, the clerihew, consisting of four lines of unequal length with the rhyme scheme aa, bb and with a person's name in the first line.

Example: Lord Byron
Once succumbed to a siren
His flesh was weak
Hers Greek.

Closer (alas) to home is:
Elizur Wright
Never slept through the night
The thought of a lapse
Reduced him to naps.

We would like a clerihew using a name we know. The following names are suggested for readers without a favorite of their own: Abe Beame, Andrew Webster, Alfred Guertin, Santa Claus. Too easy? Try De Moivre or Unruh. The prize is *An Almanac of Words at Play* by Willard R. Espy.

Rules

1. All entries must be original (and printable).
2. The Editor and Competition Editor are *Ex-Officio* not eligible.
3. Only one copy please, to be sent to
   Competition Editor
   The Actuary
   Mail Drop 13-2
   1740 Broadway
   New York, New York 10019
4. Entries must be mailed by Ground Hog Day.
5. Competition Editor's decision is not subject to appeal.

Results of Competition No. 4

You were asked to suggest actuarial avocations along the lines of *Tom Bowls* and *Trow Bridges.* From the Year Book there came a number of fine entries including such popular repeats as *Steve Gambles, Bob Spies* and *Don Samples.*

One entry we found especially intriguing said, "From facing pages 194 and 195 of the 1975 Year Book, anyone can see that *Mike Purrs* while *Dave Prays* and *Tom Pynes.*" All this from *Charlie Grows Shells.*

Covering the waterfront, one letter tells us that *Paul Zwilling* to do anything, for which *Steve Martineaus* somebody an apology.

Bill Spares, Bill Forests and *Bob My Errs,* all from *Steve White,* cover-up expert.

We were very much taken with John Grantier's melodic Trio: *Harold Sings, Bill Yodels* and *Jon Pianos* but our heart (and the prize, *The Game of Business*) goes out to Jerry Scher's:

Gilbert W. Fits Shoes

The thought of a former president of the Society reduced to the rank of cobbler made Paul Gilman's news that *John Wanes* and *Jane Withers* positively cheering. Never mind. At least no one was so misguided as to suggest that *Jack Braggs.* We close with our runner-up favorite, from Steve Bryson, *John Angles,* and with thanks and season's greetings to all.

C.E.

LETTERS

About Society Meetings

Sir:

Among the rules that are "more honoured in the breach than the observance" is the assurance in each Society Program Booklet that at Concurrent Sessions "There will be opportunity for questions and informal discussion from the floor".

I wonder whether many Society members would support the following proposals aimed at curtailing the time now preempted by panelists. First, reduce the number of subjects, specially unrelated subjects, listed for a Concurrent Session. Second, experiment with a limit of two panelists in addition to the Moderator. Third, invite a non-member panelist only if the ground that visitor will cover cannot equally well be covered by a Society member. Fourth, and most important, discourage panelists from dwelling so long on ABC's of their subject; sketching the basics is doubtless necessary, but many panelists go far beyond such sketching, to the detriment of the educational value of the Session.

E. J. Moorhead

What's in A Name?

Sir:

The proliferation of actuarial organizations and designations has been an initial success—I now have five sets of initials I can append to my name should the occasion arise.

A new designation has now been established by ERISA—the "Enrolled Actuary". Naturally, an appropriate set of initials must be developed.

The first to consider is "E.A.", which is, after all, exactly the first initials of the designation. It also is apparently distinctive. However, in the history of the Profession on this continent, I can discover no two-letter abbreviations.

Since the term is defined in Internal Revenue Code Section 7701(a)(35), perhaps the abbreviation should be "I.R.S.E.A." or alternatively "E.A.I.-R.S.". These are long, semi-pronounceable, and are anagrams of "E.R.I.S.A.".

If one does not limit oneself to the first letter of each of the words "Enrolled Actuary," the designation "En. Act." suggests itself.

Since one is really a "Pension Enrolled Actuary," perhaps "P.E.A." is in order. Then again, perhaps it isn't.

Finally, since the designation is established under Title III, subtitle C, we should adopt "IIICEA" (pronounced I-I-I-See) or "IIICEAERISA".

Thomas D. Levy

P.S. Is F.S.A. now ambiguous, referring to the Funding Standard Account, or can we call that "Funny Standee" instead?

* * * *

Postscript on Social Security

Sir:

Mr. Eide has given an excellent account of the reports of the Advisory Council on Social Security in the October issue. One point, however, does require some clarification.

Mr. Eide correctly points out that the reports stated that there was a consensus on a number of major findings and recommendations. This would lead the reader to believe that these findings and recommendations were unanimous, but in actual fact, there were strong minority dissents and objections on several.

This was especially so in connection

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Letters

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with (1) the recommendation to finance the Hospital Insurance system from general revenues and to transfer the HI payroll taxes to OASDI, and (2) the recommendation to liberalize the definition of disability.

With respect to the last, it was indeed anomalous that such action was taken even though the disability experience has been growing significantly worse in recent years and that the Advisory Council did not have time to study the matter. It is noteworthy that the member of the Council who is an actuary joined several other members in opposing strongly the liberalization of the disability definition.

Robert J. Myers

* * * *

Interest Rates and Salary Scales in Pension Valuations

Sir:

I normally find *The Actuary* interesting and, occasionally, provocative. To my amazement, I find myself splashed over Page 4 and 5 of the November 1975 issue and, surprisingly, the discussion is not an accurate reflection of my earlier article in *The Actuary.* Frankly, I don't understand Mr. Feay's comments.

What I was stating in the April 1975 issue is relatively simple. If you add a constant percentage to *both* the valuation interest rate and the salary scale, you reduce costs. This is obvious if you consider the salary scale stops prior to normal retirement age.

Barnet N. Berin

* * * *

"The Proper Study of Mankind is Man"

Sir:

The current meeting of the Society must have been a jolly one with dozens of chairpersons, co-chairpersons, and subcommittee co-chairpersons running around in all directions. I trust they had a good, old-fashioned game of musical chairs.

But seriously, I'm wondering why the program committee chose to disregard the authoritative advice of Professor Jacques Barbun of Columbia University, and other authorities on our American language, that ". . . *man* in *chairman* and elsewhere still means and, etymologically, always has meant *person* . . . with no implication of sex. . . . The present urge to tamper with familiar usage is foolishly misdirected".

Good old Webster (Noah, not Andy) agress, saying a chairman is "the *occupant* of a chair of office . . . " Again, no sex.

I am delighted that the editors of the Year Books of the Society, Institute, and Academy are all satisfied with the standard, and correct, usage

Were we to do otherwise, we could have much fun following this person phobia into by-ways such as:

Second baseperson	Minuteperson
Personhandle	Person-of-war
Ploughperson	Piltdown person
Person-of-all-work	Personkind
Chess person	

etc., etc . . . But seriously, what's to become of the Fellow of the Society? Webster says that *fellow* means comrade or associate, and since the latter is already commandeered, am I now to be a *Comrade?*

All this makes me wonder if actuaries don't have enough problems these days without fiddling with language. I humbly suggest that they do, and that they quit this verbal nonsense.

Wilmer A. Jenkins

Editor's Note: I heartily agree!

* * * *

Amortization of Expenses

Sir:

Mr. Claude Y. Paquin's letter in the October issue challenges the conclusion on the part of certain people to the effect that the Academy of Actuaries Financial Reporting Principles Committee Recommendation No. 1 points out that actuarial principles require the use of interest in amortizing GAAP expenses.

In its reply to this letter, the Committee stated that it was ". . . unanimous in its opinion that interest should be taken into account in the computation of the unified reserve. Hence, where the 'expense' portion of the reserve and the remainder of the reserve are calculated separately, the Committee is likewise unanimous in its opinion that each Calculation *should* (the italics are mine) take interest into account".

Interpretation 1-c states that "To be consistent with actuarial principles the difference between the amount carried on the balance sheet as reserve liability and the amount carried as deferred charge on account of unamortized acquisition expense *must be substantially equal* (the italics are mine) to the present value of future costs less the present value of future valuation of premiums . . ."

What seems to have occurred here is that the Committee has taken the words "must be substantially equal" as they appear in Interpretation 1-c and translated them to mean "should" in replying to Mr. Paquin's letter. This is ridiculous on its face.

In addition, since the Committee is "unanimous in its opinion that each calculation should take interest into account" and since deferred federal income taxes are an expense, does this mean that the Committee is "unanimous in its opinion" that the calculation of the deferred federal income tax liability "should take interest into account?" If so, are they as prepared to force the use of interest in the calculation of the deferred federal income tax liability as they make it appear to be by the use of the word "should" in the calculation of the deferred acquisition expense asset?

Since discounting of deferred taxes remains a prohibited accounting practice according to APB No. 11, it would appear that the answer is "No." Assuming this answer to be correct leads to the conclusion that generally accepted actuarial principles must derive from generally accepted accounting principles. And the latter principles permit the deferred acquisition expense asset to be calculated with or without interest.

Fernand Bonnard

The Academy Committee submits the following reply to Mr. Bonnard's letter.

The Academy Committee on Life Insurance Financial Reporting Principles does not agree that generally accepted actuarial principles derive from generally accepted accounting principles.

BOOK REVIEW

Errors

Maria E. Gonzalez, Jack L. Ogus, Gary Shapiro and Benjamin J. Tepping, *Standards for Discussion and Presentation of Errors in Survey and Census Data,* American Statistical Association, Washington, D.C., 1975, $2.00.

by Robert J. Johansen

A set of guidelines for consideration in presenting and interpreting survey results was recently published by the American Statistical Association. This was developed by the Bureau of the Census as part of its responsibility to inform its data users of limitations due to sampling errors and to response and other non-sampling errors. The material will be of interest to actuaries and of help in preparing their own study reports. The guidelines discuss some relatively simple means of presenting error estimates for published data.

The following excerpt is one of many thought-provoking points raised, "The practice of saying nothing when an observed difference is not 'statistically significant' is not an adequate solution. It may reduce the attention given to important results, e.g., at turning points in a series, or it may encourage an interpretation of no change when, in fact, the band of uncertainty is large and an economically or sociologically important shift could have occurred. If all that can validly be said about an important figure is that the change lies within the range −0.2 to +0.3 percent, with the specified confidence of being correct, it would be desirable to say precisely that."

The guidelines were intended not as a comprehensive guide to error estimates in sample surveys, but to indicate the information about errors that should be included in reports containing survey data and to suggest the types of information on errors to be looked for in order to evaluate the data properly. The guidelines are considered by the Census Bureau to be work-in-progress and comments and suggestions are welcome.

A copy of the guidelines can be obtained by writing to American Statistical Association, 806 15th Street, N.W., Washington, D. C. 20005, requesting JASA Volume 70, Number 351, Part II, enclosing a check for $2.00. □

Group Medical Expense

(*Continued from page* 1)

there has been an increase in the number of insurers "withdrawing" from the market. One beneficial effect of this withdrawal is that those insurers which remain are more easily able to market their individual insurance on a successful basis. They can properly underwrite new business and adequately price new and renewing business. Unfortunately, this apparently is not the situation in group medical expense insurance and the bulk of medical expense insurance coverage is provided through group insurance. For obscure reasons, far too many group insurers either tolerate financial losses in medical expense insurance or are naively optimistic in their underwriting and pricing. The managements of these insurers may deny this but the financial results, the losses, speak for themselves. Furthermore, the competitive presence of the Blue's and the threat of socialization of medical expense insurance appear to compound the problem. One consequence of this loss toleration is that it is becoming a formidable task for an insurer to market and manage successfully group medical expense insurance even during normal economic circumstances. When this loss toleration is combined with an adverse economic environment such as exists today, even the managements of those few insurers which have historically been successful in group medical expense insurance are not maintaining their "success" postures.

Increase in Average Age

One of the consequences of the recent economic dislocations is that the economy has experienced a slow-down. As with all slow-downs, the country's unemployment has increased because of lay-offs, business failures, and the natural termination of employees without replacement. A consequence of any increase in unemployment is that the average age of the remaining employees of a group tends to increase. The young employee more times than not is "victimized" by lay-offs because he has the least tenure and experience. Further, the young employee is the one most likely to voluntarily terminate his present employment. Both of these facts result in an increase in the average age of the remaining employee group and thus in an increase in the claim frequency rates.

The increase in average age by itself, does not completely explain the current level of claim frequency rates. Analysis indicates that the increase in average age has been between two and three years and this, translated into an increase in benefit costs, represents an increase of 10% to 15%. The average benefit costs over the last 12 months have increased by at least as much as 35% on many groups, an increase far greater than that expected from the combined effect of the average age increase and inflation.

"Deflux" of New and Younger Employees

All group insurance, to be successful, requires that there be a normal influx of new and younger members into the insured group. The financial reality of this important consideration is well known by those insurers which have unsuccessfully insured members of the various railroad employee associations and groups. An influx of new and younger members has two important consequences. One consequence is that the average age and composition of the group is maintained.

A second and equally important consequence is that an element of "select" morbidity is injected into the experience of a group. "Select" morbidity results from the employment process of hiring generally only healthy people. This element of "select" morbidity is relatively constant under normal circumstances of employee influx and is inherent in the price structure of group insurance.

The recent increase in unemployment and the related "deflux" of new and younger employees has resulted in an increase in the average age of a group which has had an adverse effect on the "select" morbidity element inherent in the groups. These together have resulted in higher claim frequency rates which have undermined the price structure of group medical expense insurance.

Probable Future

It has been observed that the potential work force available ten years from now will be no greater than the work force which is available today. Two basic demographic considerations sup-

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Group Medical Expense

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port this observation. The first is that the number of persons becoming eligible for the labor market will not increase significantly due to the baby bust of the 1950's and 1960's. Even today fertility rates are decreasing. The second is that the number of people retiring in the next ten years is expected to continue increasing relatively in comparison to the total population.

If these demographic forecasts are realized, the increase in the demand for labor over the next ten years resulting from even "depressed" economic growth can be met only from the ranks of the currently unemployed. A decrease in the ranks of the unemployed, necessarily coupled with a return to a more normal movement of employees into and out of the active work force, can have only a favorable impact on group claim frequency rates over the long term.

What Can Be Expected Over the Short Term?

Group claim frequency rates over the short term will likely be dependent upon what happens to the economy over the same term. It is worthwhile examining the several possibilities, each of which has a different implication for group insurers.

The most optimistic but least likely of the possibilities is that the economy will recover over the next six months. If the economy were to upturn, the demand for labor would increase, the ranks of the unemployed would decrease, and the normal influx of new and younger employees and the average age of employees would be restored. Obviously, a beneficial impact on group claim frequency rates would result.

A more moderate viewpoint is that the economy's recovery will take longer than six months, anywhere from 18 to 24 months. The consequent increase in demand for labor would take longer, and thus the realization of the resulting favorable impact on group claim frequency rates would be deferred.

A pessimistic viewpoint is that the economy will not really improve, that it will worsen after an apparent recovery. In such event, the consequent impact on group claim frequency rates would likely be adverse.

Management Decisions

What group medical expense insurance management decisions are being made during these difficult times and what are their likely financial consequences?

It can be said that *all* insurers are significantly increasing their group medical expense insurance premiums. These increases are generally ranging from 20% to 40%. If the pessimistic viewpoint of the future economy materializes, these premium increases should prove to be inadequate, and group insurers in the aggregate should continue over the short term to sustain losses. If the moderate viewpoint of the future economy materializes, these premium increases *could* prove to be adequate, and the financial posture of group insurers *could* improve to a generally satisfactory level. If the optimistic viewpoint of the future economy materializes, group insurers should realize excess funds over and above those normally considered satisfactory.

In addition to increasing premiums, a number of the traditional and necessary management actions are required. Among these are (1) quality salesmanship, (2) proper selection, classification, and pricing of the group risks, (3) efficient administration, and (4) frequent and meaningful financial feedback. However, the management task in the future for success (survival) will require more than these. Foremost, an industry commitment to financial responsibility is mandatory. This commitment can be realized in part by each insurer's recognition and acceptance of a national economy dominated by Governmental interference with its consequent adverse effect on group medical expense insurance.

It should be evident that the insurance industry is being forced to underwrite the financial impact on its products of changes in the economy. The industry may not appreciate this infringement, but if it is to be successful, if it is to survive, it must accept the reality of its consequences.

Contrary to some opinion, insurance is not a risk capital venture in the usual sense. Nor is insurance gambling, although many insurers without realizing it enter into what might well be called *gambling contracts without the necessary* load in their premiums and then, when the losses appear, wonder what went wrong.

Insurance is a sharing of the financial consequences of a reasonably predictable risk by a large number of people who have a reasonably homogeneous exposure to that risk. An insurer functions as the financial intermediary by which this sharing is realized. To the extent that an insurable risk is subject to forces extrinsic to itself, the financial impact of those forces must be anticipated and incorporated into the pricing of the risk. For group medical expense insurance what does this mean?

The two important forces extrinsic to group medical expense insurance are inflation and severe economic slowdown. In many group policies, premiums are guaranteed for the policy year. Although many of these premiums have anticipated to varying degrees the impact of inflation, few have provided for the effect which results from adverse changes in the rates of inflation. Further, few, if any, of these premiums have provision for the adverse effect of an economic slow-down.

Many insurers in adjusting their group pricing to anticipate the impact of inflation do so on a relatively undynamic basis and thus are always "catching up." For most of today's managements the adverse effect of a severe economic slow-down is a new experience. Its acceptance as a recurring reality generally will be slow and thus costly to many insurers, as acceptance of increasing inflation as a reality has proven to be slow and costly.

The economic climate for the future is uncertain. Group medical expense insurance over the short-term should be materially affected by and dependent on that climate. In order to succeed, insurers (1) will have to be able to react unilaterally to the effects of any adverse changes in the economy, and can do so only by removing from their contracts any legal incapacity to so react (that is, by eliminating the premium guarantees) or (2) will have to load their premiums against the risk of adverse changes in the economy; a less desirable choice because of the uncertainty of these changes. □

100 Years in Canada

(Continued from page 1)

assessment type organizations which had then become quite active. In the late 1890's, the general legislation was amended to include investment powers applicable to all companies. Prior to that date, investment powers of individual companies were found in their separate charters. A Royal Commission investigated life insurance in Canada about the same time as the Armstrong investigation was active in New York. This Commission reported in 1907. A general revision of the insurance legislation took place in 1910.

The legislation of 1910 separated the governing legislation applicable to insurance companies from that applicable to other corporations and established the office of the Superintendent of Insurance as a separate department of Government. Prior to that, it had been attached to the Department of Finance.

Mr. Fitzgerald was succeeded in 1914 by George D. Finlayson. Mr. Finlayson started his career in the Department in 1907 and attained associateship in the Institute of Actuaries in 1911. He was a graduate of Dalhousie University, which granted him an honorary LL.D.

Mr. Finlayson held the position of Superintendent of Insurance until Jan. 1, 1948. This period of 34 years was one of much change and development in the insurance industry in Canada, and a period of many tensions, problems, and disputes.

It covered two major wars and the financial crash and depression of the late 1920's and early 1930's. It was also a period of much constitutional dispute between the federal jurisdiction and the provincial jurisdiction in the insurance field. The present pattern of supervision evolved from these disputes. The federal jurisdiction has authority in relation to the corporate powers and financial structure of federally incorporated companies and in relation to admission of companies from outside Canada and the establishment of financial standards for their continued operation in Canada. The provincial jurisdictions relate to matters having to do with the individual contract with the policyholders and the rights of the parties pursuant to these contracts. Provincial jurisdiction also applies to the licensing and regulation of agents and to all necessary supervision of companies incorporated within the provincial jurisdiction. As matters have evolved, more than 90% of the insurance business is transacted by companies under federal supervision with respect to their financial status.

Of particular interest to actuaries during this period was the legislation in 1919 requiring fraternal benefit societies to submit an actuarial certificate concerning adequacy of reserves. This had the effect of putting all such societies on a sound financial base. Also of interest was the amendment in 1927 withdrawing the prescription of a uniform basis for calculation of actuarial reserves for life insurance companies. Instead, the actuary was given a wide range of choices and required to give a personal certificate of opinion concerning the adequacy of the reserves.

In the 1919 Legislation there appeared for the first time a definition of "actuary" as a Fellow of the Institute of Actuaries, a Fellow of the Faculty of Actuaries or a Fellow of the Actuarial Society of America. The 1927 Legislation added Fellow of the American Institute of Actuaries. In 1970 "actuary" was redefined and Fellow of the Canadian Institute of Actuaries substituted for all the previous definitions.

Mr. Finlayson was succeeded, at the beginning of 1948, by R. W. Warwick, a graduate of Queens University and an associate of the Society of Actuaries. His service in the Department started in 1910. He, therefore, had had a very long period of experience in the Department prior to his appointment.

Mr. Warwick held the post until his retirement in February 1953. His period of service is noted for a major revision of the insurance legislation in 1950 affecting mostly investment powers and for changes that reduced the maximum proportion of profits from participating business that could be drawn off for the benefit of shareholders in the case of large stock companies. About that time, considerable interest existed in buying control of established Canadian life insurance companies and there was some fear that change of control might result in stripping of profits from participating business.

Mr. Warwick was succeeded in 1953 by K.R. MacGregor. Mr. MacGregor is a graduate of Queens University with a degree in engineering and is a Fellow of the Society of Actuaries, having been vice-president of the Society 1963-65.

Mr. MacGregor's career in the Department started in 1926. Prior to his appointment as Superintendent, he had filled the offices of Chief Actuary and Associate Superintendent. As was the case with his predecessor, R.W. Warwick, he had a long period of experience in the Department.

Mr. MacGregor held the post of Superintendent until October 1964, at which time he resigned to take a position in private industry. This period of some 11 years was notable chiefly for legislation permitting life insurance companies to mutualize, for further revisions in investment powers and other corporate powers, and for general concern relating to the maintenance of Canadian control over financial institutions.

The present incumbent, the author of these remarks, is also a Fellow of the Society. His service in the Department began in 1940, another example of long experience in the work of the Department before his appointment as Superintendent in 1964.

The years since 1964 have been marked by legislation controlling transfer of shares of life insurance companies to non-residents, further expansion of corporate powers of life insurance companies and intensive study of financial reporting and reserve bases.

The remarkable record of having only six incumbents in a hundred years, most of whom had actuarial training and extensive periods of service in the Department before appointment, has resulted in a stability and continuity of supervisory procedures that have served the public and the industry well. Also, it has resulted in an appreciation of the importance of actuarial training in the field of insurance supervision and in the development of techniques that place much responsibility on and confidence in the actuaries who determine the actuarial reserves for life insurance companies. It is of interest to note that the present proposals under study by the NAIC would include an actuarial certificate almost identical in terms to the actuarial certificate that, for many years, has been an important part of the Canadian supervisory requirements. □