RECORD OF SOCIETY OF ACTUARIES
1987 VOL. 13 NO. 1

STATUTORY VALUATION STANDARDS

Moderator: W. H. ODELL
Panelists: JOHN. M. BRAGG
MARK E. LITOW
FRANCIS T. O'GRADY
Recorder: ROBERT H. DOBSON

- o Professional standards
- o Update on the proposal of the National Association of Insurance Commissioners Life and Health Actuarial Task Force
- o Minimum state requirements
- o Federal income tax deductibility

MR. W. H. ODELL: Each of you determining health insurance reserves and liabilities is faced with a host of challenging questions. Some of the leaders of our profession in this area will address the full range of these questions and discuss the matters they consider most important.

Many of you have been faced with practice and professional questions in your work. These have not recently received the attention they deserve because of current interest in other matters. Mr. Mark E. Litow will address practice and professional concerns. Mr. Litow is a health insurance consulting actuary with Milliman & Robertson, Inc., in Milwaukee, Wisconsin. He has nearly 15 years of practical experience in this area.

Another important issue is taxes which has not received much current constructive consideration as regards health insurance valuation. Our second panelist is Mr. Francis T. O'Grady, Actuary of the Metropolitan. His credentials in this area include co-authoring the paper "Reserve Principles for Individual Health Insurance" published by the Society of Actuaries, serving as chairman of the Health Section of the Society, serving on the Committee on Individual Health

Experience Studies and on the Part 7 Exam Committee. He is currently a consultant to the E&E Committee on health insurance topics.

Our first panelist will address the matter of the statutory valuation standards, presenting some background on the subject, recent studies in this area, and the more recent version of the NAIC proposal. He is Mr. John M. Bragg, a past president of the Society of Actuaries. He is the author of the first definitive paper on claims reserves and liabilities which most of you studied on your way to Fellowship. He responded to the call for papers by the Casualty Actuarial Society for its 1980 meeting in Puerto Rico. He is an associate of the Casualty Actuarial Society. He initiated the first structured efforts of our profession in continuing professional education.

MR. JOHN M. BRAGG: My assignment is to summarize the current situation and developments regarding health insurance valuation.

When I take on an assignment like this, I usually start by estimating the size of current reserves. My current estimate, as of the end of 1986, is that life and health insurance companies in the United States held active life health reserves of $4 billion and health insurance claim reserves and liabilities of $21 billion. This latter figure would be more like $50 billion if the list was expanded to include Blue Cross and Blue Shield plans, health maintenance organizations, and the health insurance operations of property and casualty companies. None of these latter organizations have any appreciable active life health reserves. Claim reserve totals are at least ten times as large as active life reserves.

Two committees have recently done extensive work regarding health insurance valuation. Both have dealt with active life reserves and claims reserves. Both have dealt with individual insurance and group insurance. The two committees are:

1. The Academy Committee, chaired by Mr. E. Paul Barnhart. This committee has produced a new model regulation, and is recommending its approval by the National Association of Insurance Commissioners. See *Record* of the Society of Actuaries, New Orleans meeting, Vol. 11, No. 4B, page 2412 for some further background about this. Also, see Mr. Barnhart's excellent paper "A New Approach to Premium, Policy, and Claim Reserves for Health

Insurance," and its discussions, starting on page 13 of *TSA* Vol. XXXVII. The committee's report is not an official recommendation of the American Academy of Actuaries. Rather, it is an NAIC recommendation developed at the NAIC's request by the Academy Committee.

2. The Odell Committee, chaired by Mr. Odell. This is a subcommittee of the Greeley Committee, an advisory group of actuaries which was appointed some years ago by the NAIC life and health staff actuaries organization. The report of the Odell committee is published in the New Orleans *Record*, Vol. 11, No. 4B, pages 2444-2515.

In this presentation, I will first of all deal with health insurance claim reserves and liabilities (called "claim reserves" for short). I will then deal with active life reserves.

The Academy Committee model regulation contains one and a half pages dealing with claim reserves. Maximum interest and minimum morbidity standards are specified. Methodology is not spelled out, but must be generally accepted or reasonable. Aggregation of reserves is to be permitted, across statement lines.

The Odell Committee report deals with the claim reserve question in much greater detail. The so-called five pieces are clearly identified. These five pieces are:

The claim reserves (for unaccrued items):

1. Amounts not yet due -- reported part
2. Amounts not yet due -- unreported part
3. Amounts for deferred maternity and contingent benefits

The claim liabilities (for accrued items):

4. Claims in course of settlement
5. Unreported claims

Ignoring or misunderstanding of the five pieces leads to a great deal of trouble with health insurance claim reserves, and possible under-reporting of the same. Efforts to blur the five pieces by statement changes and efforts to aggregate the results across statement lines, may result in under-reporting of claim reserves.

Both committees have struggled valiantly with the age-old and nerve-wracking problems of (1) incurral date and (2) period of disability to be attributed to a given incurral date.

The Odell Committee report is in many ways theoretical in nature. However, it is very practical in defining the two acceptable methods for determining claim reserves.

These are the "tabular method" described on page 2505 of the *Record* of the New Orleans meeting (Vol. 11, No. 4B) and the "development method" described on page 2513.

Further comments about the tabular method are in order. I believe its day may be coming, for the following reasons:

1. Simplicity of application, once the tables have been produced.
2. Clear separation of the five pieces.
3. Clear separation by calendar years of incurral; this means that residuals from past years are not lost sight of.
4. Definiteness, which may be very important from a tax standpoint.
5. Automatic grounding in correct incurral date and period of disability rules; incurral dates must obviously be kept by the company, but this is primarily for purposes of the run-off check required by the statement.
6. A grounding of the method in rating principles or filing principles. Such principles have become very much recognized in recent years.

The tabular method is applicable to all coverages, including property and casualty coverages. The tabular method produces factors which are simply applied to premium income to produce the results. Summarizing from pages 2508-12 of the above-quoted *Record*, the results are as follows for the coverage therein described (a two-year disability income policy with no maternity benefits).

The following Table 1, Illustration of Tabular Method, is based on Table 1 on page 40 of *TSA* Vol. XVI, and on the assumption that the filed loss ratio is 45% of annual premiums, which is the equivalent of 37.5% of actual modal distribution premiums.

TABLE 1

ILLUSTRATION OF TABULAR METHOD

To Premiums of	Factors to be Applied at End of Year Y					
	In Course of Settlement*	Unreported	Amounts Not Yet Due Reported#	Amounts Not Yet Due Unreported	Deferred Maternity	Total
Year Y:						
1st Qtr.	0.26	0.00	4.03	0.00	0.00	4.29
2nd Qtr.	0.40	0.01	5.44	0.00	0.00	5.85
3rd Qtr.	0.98	0.23	7.73	0.07	0.00	9.01
4th Qtr.	3.12	2.85	9.95	7.37	0.00	23.29
Year Y-1	0.18	0.01	1.67	0.00	0.00	1.86
Year Y-2	0.01	0.00	0.00	0.00	0.00	0.01

*Information from actual claim files may be substituted, if accurately know.
#Values from actual claim files may be substituted, if accurately calculated.

If the tabular method was used or can be retroactively constructed as of the end of (Y-2), for example, an optional adjustment of all factors can be made by multiplying by the ratio of run-off to claim reserve and liability totals. Specifically, this would be the ratio of line 3(a) to line 3(b), Schedule H, part 3, for year (Y-1).

The average adjustment ratio for several years would be desirable. No downward adjustment is recommended for statutory statements. If the adjustment ratio departs significantly from 1, the tabular factors should be recalculated from first principles.

This summary is given here in an attempt to improve understanding of the tabular method. The tabular method is sometimes erroneously thought to apply only to amounts not yet due on such benefits as long-term disability income. However, it actually applies to all claim reserves, on all coverages.

Before leaving the claim reserve subject, I want to comment further about the Academy's September Standards (the proposed model regulation in September, 1986). Incidentally, I use the word "standards" because it appears in the actual title: "NAIC Reserve Standards for Individual and Group Health Contracts." This has nothing to do with the body known as the Interim Actuarial Standards Board.

The Health Insurance Association of America (HIAA) individual and group actuarial committees, with sixteen members, have stated that the September Standards could lead to inadequate claim reserves. I personally believe that the aggregation of the five pieces, which was to be permitted, is a mistake. It will lead to further inadequacies and will certainly blur and confuse the subject. The Standards should in fact recognize the five pieces explicitly and recognize the development and tabular methods as generally accepted actuarial methods.

I will now deal with the active life reserve situation. This is the situation which is causing much controversy now.

First, I should point out that two new morbidity tables have recently been adopted by the NAIC for compulsory use:

1. The 1985 Commissioners Individual Disability Tables A and B.
2. The 1985 NAIC Cancer Claim Cost Tables.

I have recently found that the existence of these cancer tables, which are very complex, is hardly known except to the actuarial regulators and the small group of actuaries which created them. This is true even though their use is compulsory for all policies issued on or after January 1, 1986, including policies issued on old forms.

Now -- to get down to the controversial matters.

The current situation for active life reserves stems from the so-called Task Force Four report of 1964. Fundamentally, the required minimum reserves are two-year preliminary term reserves based on stated interest bases, mortality tables, and morbidity tables.

On September 29, 1986, the Academy Committee produced, as its final recommendations at the time, the document already alluded to entitled: "NAIC Reserve Standards for Individual and Group Health Insurance Contracts." For short we will call this document the "September Standards." This was done after years of effort and exposure to the actuarial profession. Two of the nine members submitted minority reports; one of these recommended the use of lapse rates and one expressed opposition to the benefit ratio reserve concept.

The document was officially considered by the NAIC staff actuarial group and by the NAIC (B) Committee, at meetings held in early December, 1986, at Orlando, Florida.

The HIAA individual and group actuarial committees had pointed out twelve alleged flaws. The HIAA Board itself had urged rejection of the document.

The NAIC staff actuarial group adopted the report by a split vote with a plurality of only one and several abstentions. The NAIC (B) Committee was said to have rejected the report totally. What it actually did, though, was to send the report back for further consideration.

So, the Academy Committee has gone back to the drawing boards. A revised document has been produced. I will call it the "March 24 Standards." I understand that the committee hopes to resubmit proposed standards at the December, 1987, meeting of the NAIC. I also understand that the revised standards will be re-exposed to the actuarial profession. I strongly urge that this be done. The existence of the proposed standards is still not generally understood, especially in the group actuarial profession, and perhaps not in the part of the profession which is particularly interested in overall financial reporting.

It might be a fair generalization to state that the September Standards constituted a mere refinement or rearrangement of present practices, except in one respect: the inclusion of a new required reserve called the benefit ratio reserve. Incidentally, that reserve had been called a balancing reserve in earlier material, including Mr. Barnhart's 1985 paper.

The benefit ratio reserve (BRR) does not apply to noncancellable policies or to a stated list of traditional products of a fixed benefit or stable nature. It does apply to all other policies, apparently including such popular coverages as individual major medical coverage and some forms of Medicare supplement insurance. It apparently does apply to group health insurance; small group major medical coverage might be singled out as a specific example.

The benefit ratio reserve concept states that, if the historic loss ratio on a block of business has been less than a certain ratio usually thought of as the filed ratio, the resulting surplus, as defined, must be set up as a reserve.

In this summary presentation, I will not go deeply into the justifications for BRR. However, its proponents believe it will lead to stability with regard to such highly volatile coverages as individual major medical. It is apparently geared, especially, to coverages which are cancellable, and yet involve premiums which are calculated or intended to be of a level long-term nature. I might also mention that the emergence of such a surplus is the circumstance which might ultimately lead to a compulsory rate reduction on certain coverages, in certain states which have adopted rate regulation requirements. In a sense, then, emerging surplus, carefully defined, is a liability if a rate filing has actually occurred in a rate regulation state. This latter is a justification which occurs to me, but I have not seen it stated anywhere. This justification would mean that BRRs are justified on all rate regulation cases, including some exempt types listed in the standards. This is a point which might occur to valuation actuaries.

I will comment about the rate regulation guidelines, because they are connected with the present situation. The guidelines apply to individual business, with few exceptions. The required loss ratios typically range from 45% for non-cancellable loss of income coverage to 60% for optionally cancellable medical expense coverage. Small average size adjustments are allowed. It is important to realize that the guidelines apply only when monthly and other modal premiums (usually the vast bulk of all business) have been converted to annual mode equivalents. Furthermore, the guidelines apply to the anticipated loss ratio (ALR) over the entire period for which premiums are calculated. The ALR arises from two parts: (1) the historic accumulation, and (2) the future projection. It is part (1) which I think is allied to the benefit ratio reserve. If the historic accumulation is driving the total ALR under the guideline minimums, there is an expectation that rate reduction may be necessary. Please note that this would be the case only if the total ALR goes under the guideline minimum, and not under the filed loss ratio, which would usually be higher. At this point I will make a personal comment about lapse rates. I personally believe that the actual historic lapse experience should and automatically would have been used in part (1) of the ALR; however, no lapse assumption should be made for part (2) because this would constitute a gamble (not permitted on life insurance, for example) that future lapses can be counted on to provide financial relief.

Going back to the September Standards, I will try to summarize the main objections to the benefit ratio reserve. The first ones are fundamental objections, which hold that the concept should not be adopted at all:

1. It is the prerogative of management to deal with emerging surplus, in any way it sees fit.

2. The concept is fundamentally aimed at rate regulation, not solvency.

3. The adoption of compulsory benefit ratio reserves might drive companies out of the lines of business involved. Several companies have stated that this would be the result.

4. Benefit ratio reserves might not be recognized as reserves for tax purposes.

The next are the technical objections, which hold that the concept is acceptable if it is fixed:

5. It should not apply to group insurance, which has always operated successfully on a pay-as-you-go concept.

6. The half-year preliminary term concept inherent in the method should be increased to the traditional two-year concept.

I believe another technical objection could be recorded, as follows:

7. There are inconsistencies with rate regulation guidelines. This would be improved if BRR was geared to the emergence of surplus under circumstances where all premiums are measured on an annual mode only, and measured against the required minimum loss ratio standards, not the filed standards, which would usually be higher. I don't see why a monthly-mode block should generate a higher BRR than the same business written with annual premiums, if both blocks are subject to filed or minimum ratios strictly geared to annual premium equivalents.

The March 24 Standards differ from the September Standards in that a reserve expense deduction is to be allowed as an offset to the benefit ratio reserve. This deduction is in the nature of a first year expense allowance. Also, the two minority opinions have been withdrawn. One of these committee members had advocated the use of lapse rates in working active life reserves; this opinion has apparently been withdrawn. I have not been able to find where allowance for the use of lapse rates has been included in the March 24 Standards. Recently I was told that this has been done in some way. The other minority opinion had maintained the first of the fundamental objections mentioned above -- namely, that the disposition of emerging surplus is the prerogative of management. However, this dissent has also been withdrawn.

I will end this summary by mentioning only one other subject, but it is an important one. The valuation actuary concept is rapidly coming to fruition. Maybe the benefit ratio reserve falls into the proper realm of the valuation actuary, rather than the realm of compulsory fixed regulation. However, the valuation actuary concept is not yet a full reality in the United States.

It has been an honor for me to summarize the health insurance valuation situation as of April 2, 1987.

MR. FRANCIS T. O'GRADY: The Deficit Reduction Act of 1984 made significant changes in the taxation of life insurance companies. This new law was intended to correct certain inadequacies that the Congress perceived in the 1959 Act. One of these concerns related to the tax treatment of reserves maintained by life insurance companies. Under prior law, tax reserves were based on the reserves a company actually held in its Annual Statement. The Congress felt that this resulted in a significant overstatement of liabilities in comparison to those which were based on realistic assumptions. The new law was meant to establish a more accurate measure of liabilities for tax purposes. This was done by imposing specific rules for the computation of tax reserves which approximate the smallest reserve that would be required under the prevailing laws of the states.

The actuary who is responsible for determining tax reserves for individual health insurance may well have felt, as I did, when he read the new law, that it was primarily written for individual life insurance and that the references to individual health insurance seem to be included almost as an afterthought.

For example, reserves for individual health insurance policies with noncancellable renewal provisions are defined by the Act to be life insurance reserves. It should be noted the interpretation of the term noncancellable includes policies with guaranteed renewable renewal provisions.

The reserve for tax purposes must be determined using the prevailing Commissioners' Standard Tables for mortality and morbidity. Prevailing tables are defined as the most recent NAIC tables permitted to be used as a reserve basis in a majority of the states, i.e., at least 26 states, when the contract was issued.

The prevailing mortality tables to be used in the calculation of individual health insurance reserves are those designated for use for individual life insurance.

The prevailing interest rate designated for use in calculating individual health insurance reserves is the highest interest rate permitted for use for life insurance reserves for a whole life contract issued in the same year as the health insurance contract, again, in the majority of states.

The reserve method prescribed is the two-year full preliminary term method. There is, however, a special rule which allows the use of the level premium reserve method under certain circumstances.

There are, however, no prevailing morbidity tables that meet the requirements set by the law. The law made provision for this situation, however, by directing that regulations be issued specifying the tables to be used when no prevailing tables exist.

The American Council of Life Insurance (ACLI) has been doing extensive research and study on the new tax law and among the many valuable things it has published is an enumeration of the prevailing mortality tables and prevailing interest rates. In addition, the ACLI prepared a list of morbidity tables which it submitted to the Treasury Department for consideration for use in the regulations that were needed.

The Internal Revenue Service (IRS) finally promulgated a regulation, on a temporary basis, in January 1987 which is applicable to tax years after 1983.

This regulation included the morbidity table recommendations made by the ACLI. It should be noted that for several types of contracts the required morbidity table is identified as "Tables Used for NAIC Annual Statement Reserves" rather than as a specific table.

This temporary regulation has resolved a few of the problems individual health actuaries have with the tax law. However, at the same time the proposed new NAIC Reserve Standards for Individual and Group Health Insurance Contracts have added others.

One significant problem concerns the tax status of the benefit ratio reserves that would be required by the proposed standards. The basis for calculating this particular reserve does not define a specific table but rather a methodology. It emphasizes the use of the applicable anticipated loss ratio and defines that term so that it applies to a company's own filed loss ratio. In addition, the standards call for an annual review of the appropriateness of the anticipated loss ratio, so that it is a function of the judgment of the actuary doing the review.

This approach to reserve calculation is not consistent with what seems to have been the intent of the Congress in legislating the basis of reserves for Federal Income Tax (FIT) purposes. Thus, it seems likely that benefit ratio reserves computed by the method required by the proposed NAIC standards would not qualify as tax reserves.

The definition of individual health reserves which qualify as life insurance reserves limits the reserves included to those on noncancellable policies. As mentioned before, this includes policies with guaranteed renewable renewal provisions.

Policies which are cancellable or not renewable for stated reasons only would generally not qualify under this definition and any reserves on them, whether calculated by the traditional tabular approach or the benefit loss ratio method, would not be considered as life insurance reserves for FIT purposes. There is a possibility, however, such reserves could be qualified under Section 807(c)(2) as an unpaid loss.

Policies which are guaranteed renewable would meet one of the requirements for qualification for having tax qualified reserves, but if the reserves under these policies are calculated by the benefit ratio reserve method, then a second condition for tax qualification would not be met because the reserve was not calculated using prevailing tables.

What are the options the actuary has?

For one, he can resign himself to having a statutory reserve that is not a qualified tax reserve and exclude benefit loss ratio reserves from tax reserves.

As a second option, he can follow the requirements of the NAIC standards and then try to convince the IRS that the benefit loss ratio reserves should be tax qualified since they are required by regulatory authorities.

A third approach would be to rely on the provision given in the reserve standards to use an alternative method.

That provision says, "Provided the contract reserve on all contracts to which an alternative method or basis is applied is not less in the aggregate than the amount determined according to the applicable standards specified, an insurer may use any reasonable assumption as to interest rates, termination and/or mortality rates and rates of morbidity or other contingency."

By careful testing, the actuary may be able to adapt a qualifying prevailing table in such a way as to reproduce the level of reserves determined by the use of the benefit ratio reserve method.

How does he go about developing a table that might be qualified as a prevailing table?

Some suggestions are:

1. Develop a reserve table using the claim costs underlying the premiums for the policy form being considered.

2. Use the "Experience under Individual Medical Expense Policies" published by the Society's Committee on Health Insurance on Lives Individually Insured. This experience is available in the Reports Numbers of the *Transactions*.

3. Use a published table such as the "1974 Medical Expense Tables" developed by Mr. Anthony J. Houghton and Mr. Ronald M. Wolf and presented in a paper in *TSA* Vol. XXX.

A number of methods are available for adjusting the claim cost basis to the appropriate level for the policy form for which reserve factors are needed. Among these are those used by Mr. Houghton and Mr. Wolf in the paper referred to above.

Another, which is a little older but still quite useful, is that used by Mr. John Mahder and Mr. Daniel W. Pettengill in their paper "Expected Claim Costs for Supplementary Major Medical Expense Benefits" published in *TSA* Vol. XX.

An older but still very good source for adjustment methods is the paper "Development of Expected Claim Costs for Comprehensive Medical Expense Benefits" by Mr. Pettengill and Mr. Burton E. Burton published in *TSA* Vol. XV.

The tax law requires the calculation of tax reserves on a policy form by policy form basis, so if adopting an alternative approach the actuary must keep in mind that he has that requirement to meet as well as the aggregate test required by the reserve schedule.

The 1984 Act was not clear regarding the date that would govern the choice of the prevailing interest rate to be used in the calculation of claim reserves. The question was whether the original date of issue of the contract or the date of the claim should be used as the basis for determining the prevailing interest rate to be used.

I believe I am one of a number of actuaries who decided that the date of claim was the appropriate choice.

I have recently discovered that the 1986 Tax Reform Act contains provisions dealing with the discounting of claim reserves which raises doubts as to the appropriateness of using the date of claim.

MR. ODELL: How do you perceive resolving the problem of enacting a new valuation standard which requires reserves which are not deductible under the tax law? Would you care to comment on that briefly?

MR. O'GRADY: One of the concerns I've heard some actuaries express is that they see the reserve standards as something involving health actuaries and kind of an inhouse dispute among them. I think what many actuaries don't realize is that what we have here is the possibility of establishing a very important precedent in which regulators would knowingly adopt mandated reserve standards that would not qualify as tax reserves. I think it is important for the health actuaries to educate the actuaries in the other disciplines about the situation we have here and be sure that they are well aware of it, so it doesn't come as a surprise to them at a later date. The tax law is in place. There is no doubt about that. From what I have heard about it, it was quite a struggle to get it implemented in the fashion it was. I certainly don't view changing the tax law that is already in place as a very viable solution. If there is a solution, it is to prevent a reserve standard from being implemented which knowingly requires us to have reserves which are not tax qualified.

MR. MARK E. LITOW: Over the last two years, debate has raged on the appropriateness of reserve standards as exposed for commentary by the NAIC. These standards are intended to assist the actuary and regulator in preventing prohibitive cycles of rate increases, insolvencies, and, in general, educate the actuary. Will they in fact achieve these objectives? Probably not. As support for this pessimistic belief, let's examine the following three questions in regard to both claim and active life reserves.

1. What types of situations do actuaries encounter in valuing reserve liabilities?

2. How are these situations currently addressed?

3. Will the reserve standards improve the quality of reserve evaluation by the actuary?

In examining these three questions for claim reserves in general, we need to address two concerns: (1) incurral dating rules and (2) methods used in calculating claim reserves.

To begin with, three basic types of incurral dating rules exist. Under per cause rules the incurral date is the initial date of an injury or sickness or the date the deductible is satisfied. In some cases, if no treatment is rendered for a designated period of time, called a separation period, the incurral date is established as the earliest date of service after such separation period. Calendar year rules can be either per cause or all cause. For per cause, the incurral date is the earliest date of treatment or service for a particular cause in the calendar year of service. For all cause, the incurral date is the earliest date of treatment or service in the calendar year regardless of cause. On service date rules, the incurral date is the date of treatment or service, except that (1) for a continuous hospital or nursing home confinement, it is often the first date of such a confinement, and (2) a batch type of rule will be used in some cases whereby the incurral date is the date of treatment or service for the earliest such date in a batch of bills (bills that come in at the same time).

These rules are generally used for certain policy types, as shown in the chart below, but many variations exist in the industry.

Type of Policy	General Rule Used for Incurral Dating
Specific Illness Policy Per Cause Major Medical Hospital Surgical Medical Nursing Home Per Cause Medicare Supplement	Per Cause -- with or without separation period
Calendar Year Major Medical Calendar Year Medicare Supplement	Calendar Year -- per cause or all cause
Group (in general)	Date of Service -- often batch

I would generally recommend use of per cause rules with a separation period for calendar year plans instead of using calendar year incurral dating because:

1. Calendar year incurral dating procedures result in high incurred claims early in the calendar year and low incurred claims late in the year, resulting in an inappropriate matching of claims and premiums.

2. Claim reserves at interim periods during the calendar year show an illogical sequence. Therefore, analysis of experience and restatement of earnings are very difficult at interim points during the calendar year.

A variation is first date of any illness. This method appears to make no sense since claims and premiums are not properly matched. Under this method, long lags and large claim reserves will exist.

First date of service in the quarter is generally used as a substitute for the service date rule. It makes actuarial analysis much more difficult.

The claim examiner method results in the claim reserve being established based on the claim examiner's viewpoint as to how long the claim is likely to persist, plus an estimate of the IBNR (incurred but not reported). The accuracy of this method is generally questionable.

Based on some of the variations noted above to normal incurral dating rules, establishing standards of reasonableness, as the proposed standards do, is not sufficient. Instead, we need detailed guidelines to establish reasonable practices in setting incurral dating rules under different situations. These guidelines would essentially serve the purpose of educating the actuary and act as a reference tool.

The methods used to derive claim reserves are numerous and may vary by the amount of claim experience available, policy characteristics, and the actuary's preference. Important considerations in determining possible methods to use are:

1. Data available. Experience may be limited or of poor quality. In either case, assumptions based on pricing or a model of expected results would be

called for; possibly a combination of actual experience and expected results could be used.

2. Plan characteristics. Certain types of reserve methods cannot be used for specific types of coverage. For instance, lag methods are not generally useful for long term benefits (10 years or more) such as long term disability. Note that only plans with similar characteristics or lag patterns should be grouped to enable a quality review.

3. Incurral dating rules. If a calendar year incurral dating rule is in use, a seasonal analysis of results would be required to properly analyze experience and claim reserves.

Given these considerations in choosing a method, let's look at practices within the industry.

TABULAR METHOD -- A theoretical lag pattern is established to calculate claim reserves. This method is appropriate where limited company data is available. Numerous variations are certainly possible here.

LOSS RATIO APPROACH -- Loss Ratio Approach. Used in the same situation as the tabular approach and also in conjunction with or in support of other methods in estimating loss ratios for more recent time periods.

LAG STUDY (development method) -- Most common method of developing claim reserves for short term benefits. I have observed several inappropriate variations on this method, which include:

1. Completion factors calculated over the life of the policy. Companies sometimes use payments from policy inception in developing their reserve factors. Where payments go back more than one year prior to the valuation date, such payments should probably be ignored in setting factors since company staffing, growth of business, available systems, experience of claims personnel, etc., may have changed significantly from the past.

2. Completion factors represent runout for the next month or quarter only. In a lag method, factors are first generated representative of payments from

one period to the next. Such factors should then be accumulated to determine the appropriate reserve factor for a certain incurral period as of the valuation date. However, I have encountered applications of this method that failed to carry out the accumulation of these factors and used the non-accumulated factors instead.

PENDING CLAIM METHOD -- A claim reserve is estimated per claim pending as of the valuation date, with an IBNR added. Examples of bases that can be used in estimating pending claim reserves are the 64 CDT for disability benefits and an average claim amount with payments deducted for medical expense business. I have also observed several inappropriate variations of this method, which include:

1. Use of closed claims to establish an average claim amount for immature blocks of business, or blocks of business whose long term claims are not adequately represented. In this instance, the average claim amount should be adjusted to reflect the additional runout anticipated. In addition, trends may also need to be recognized.

2. Use of open and closed claims together, which could greatly understate the appropriate average claim amount.

3. IBNR calculations based on consistent percentages of the pending claim reserve, year after year, without a new analysis.

4. Calculation of the pending claim reserves at mid-year valuation dates and subtraction of ensuing claim payments since that time to derive the year end pending claim reserves.

EXAMINER'S METHOD -- The claim examiner estimates the pending claim reserve for each claim, based on his/her review of its current status.

Based on these examples of inappropriate applications of accepted methods, a lack of guidance for actuaries would appear to exist. Once again, I believe the proposed standards will not assist in correcting these deficiencies. Rather, a set of guidelines is needed to help the actuary understand the appropriate usage

of reserve methods and underlying principles. Reserve standards would then support the guidelines by establishing a specific performance minimum.

In addressing the same questions in regard to active life reserves, let's review the assumptions generally considered in establishing these reserves and corresponding practices within the actuarial profession.

MORBIDITY BASIS -- Where valuation tables exist, companies tend to use a valuation table instead of the claim costs used in pricing. The rationale here is that a standard basis is readily acceptable by the IRS for tax purposes. Where tables do not exist, actual claim costs should be used. The adequacy of the morbidity in this case determines how appropriate the policy reserve will be. Where the claim costs are deficient, however, future rate increases can be used to increase the policy reserve to a more appropriate level.

INTEREST RATES -- Values used may range from 3 to 6%. More recently, companies have been using interest rates in the higher end of this range due to the level of interest rates in the last five years. In any case, the important question is what is allowed for tax purposes, and how much conservatism is introduced into the policy reserve. The maximum allowed for tax purposes in 1987 is 5.5%, versus 6% in 1986.

MORTALITY -- Most companies are in the process of or have changed over to the 1980 CSO for mortality. Other recognized mortality tables are also used in certain situations.

RATE CHANGES -- Practices vary dramatically in the industry from reflecting the entire rate increase in the policy reserve to none at all; most companies apparently increase the incremental values in the mid-terminal reserve in proportion to the rate increase in reflecting a premium increase. Any of the practices may be justifiable in certain situations, but guidelines along these lines would help if the current active life reserve rules are maintained. As for the unearned premium reserve, this item should obviously increase in line with the rate change.

BENEFIT CHANGES -- Same as for rate changes, except that an adjustment to policy reserves would be appropriate where a benefit change is made, and the

unearned premium reserve would not be affected by a benefit change unless a corresponding rate change is made.

UNEARNED PREMIUM RESERVE -- The pro rata method is almost always used except where decreasing term type benefits are used. In the latter case, a sum of the digits method may be used in part.

ACTIVE LIFE RESERVE CALCULATING METHODS -- Three general alternatives exist for aggregate calculations of the unearned premium and policy reserves. These are (1) gross unearned premium plus policy reserve, (2) net unearned premium plus policy reserve, but with a test to require that the total active life reserve is at least equal to the gross unearned premium reserve, and (3) gross premium valuation. This latter method is not used to a great extent because of time requirements.

In establishing assumptions for active life reserves, I have observed four inappropriate variations. The first two are use of out-of-date valuation tables for mid-terminal reserves and use of terminal instead of mid-terminal reserves. The third is use of net unearned premium plus policy reserve alternative, where the test against the gross unearned premium is ignored or applied in aggregate (for all policy forms combined) instead of on a policy form by policy form basis. This latter method seems inconsistent with usual rating techniques since rate increases are usually calculated on a policy form basis and would reflect the change in the policy reserve. The final inappropriate variation is use of active life reserve interest and decrement assumptions (mortality but not lapses) in calculating loss ratios for filings with states.

In general, the current practices used in determining active life reserves suggest widely varying methodology. As a result, both guidelines and standards appear in order, and the proposed standards do present a document that affords both. Unfortunately, the reliance on the loss ratio in the proposed method for determining active life reserves technically results in the inclusion of the claim reserve calculation as part of the active life reserve bases. As such, all deficiencies inherently found in the claim reserve standards are carried over to the active life reserve standards. In other words, the guidelines and standards for active life reserves are inadequate because of the deficiency in the claim

reserve guidelines proposed. This conclusion is true without scrutinizing the active life reserve standards on a stand-alone basis.

In summary, I do not believe the creation of standards as proposed will resolve the professional practice issues on A&H reserves that exist today. Instead, they will probably serve as a smokescreen and merely retard the development of comprehensive guidelines which the profession needs badly. As such, I believe the appropriate course of action is to first develop guidelines that encompass principles the majority of actuaries can live with and then subsequently develop standards. Using an empirical approach in this way, we will focus on educating the actuary, which is the profession's best means of preventing spiraling rate increase situations and the insolvencies that may follow.

MR. ODELL: Mr. Litow, let me address a question to you. You mentioned some concerns in practice. Could you give us an example of a practice problem you have come up with in this area that might be impacted by the change of standards?

MR. LITOW: If we change standards, there's an impact on claim reserves. You calculate the claim reserves as the actuary for the company or as a consulting actuary and they say to you, "These reserves are really going to hurt our surplus. Is there any way that we can reduce these? We can't take this significant hit to the surplus, it will kill us. It's going to lower our bond rating." You sit there and scratch your head and say, "Well, I think I can bend a little bit." How much can we bend? The question is, can we strengthen claim reserves out of future premiums? I feel the answer is no, but I would like to hear what your answer is. With respect to the active life reserve, I say yes, we can strengthen if we have an inadequate method or it's out of date, we can strengthen from future premiums. I think that is a very important question. How much can you bend, and what is the proper amount of conservatism in the statutory statement with the claim reserve or the full reserves combined? Really, that is an issue I would like to see dealt with by the reserve standards. A lot of us probably have 10% for conservatism, or, if we need to, we might add 15% and say, "Okay, we want to get the reserves up, because we want to keep our taxes down." That's the other side of the issue. What are the right answers to that? I think one of the standards of practice needed is what is appropriate in those areas. I am going to leave with a question instead of an answer.

MR. ODELL: First, let's take those questions that deal with such things as practice problems. Then, some members of the Academy Committee will express their views on some of the subjects which have been discussed. Let's start with any questions that have to deal with this whole matter of professional practice claim reserving, loss reserve dates, the five pieces of the claim reserve liabilities, and incurral dates.

MR. CHARLES HABECK: I have a question on the practice. When the actuary is to certify reserve adequacy and thinks the reserves are redundant, substantially, perhaps 50% over what would be adequate, what does he do?

MR. O'GRADY: I don't think there is an answer to that Mr. Habeck. I suggest getting a second opinion.

MR. ODELL: I would like to address this question to Mr. Bragg. I met a gentleman who was quite concerned about claims incurred in the last two quarters. He said, "Well, you don't have any run-off experience for those last two quarters of claims, yet they are going to be a big part of the claim reserves and liabilities." What do you do with those last two quarters of incurrals? That seems to tie into one of the methods that you mentioned. Perhaps you can give us some ideas on that.

MR. BRAGG: Well, obviously the incurred claims in the last two quarters, and the last quarter especially, can be the lion's share of the total claim reserves. The development method, more or less counts on the last two quarters in 1986, for example, being similar to the last two quarters in 1985. That is what you are really basing everything on. The tabular method does have factors that are applied to last year's four quarters separately. The lion's share of the answer does arise from the fourth quarter, so an attempt is made under this method to recognize something special that might have happened in the last quarter. For example, you might have not even gone into business until October, or maybe your business doubled towards the end of the year. That is all allowed for in the tabular method.

MR. LEONARD KOLOMS: I have been trying to figure out what to do with disability reserves, and have found some problems to be missing from the literature with regard to reopened claims and social security changes in group

disability. In the early durations, there are people that may or may not have been awarded social security or people that don't have social security benefits now. There appears to be nothing within actuarial literature I've seen to help me in deciding how much reserve to set aside for reopened claims, or what to do in terms of social security changes where there may be an offset for full social security and suddenly it's going to change to an offset for primary social security only.

MR. LITOW: When you have that type of a situation, the standards would say the result should be based on the actuary's judgment. What you want to try to do is model the situation to some extent as best you can. I don't know what other answer there can be. I've done reserves with social security offsets and so forth. You need to understand what's happening out there in terms of the types of offsets you have for social security, what information you need to know about your people, where would the offsets occur (is it in six, seven, eight months?) and what period it is running for, then model that. I don't know of any other way.

MR. KOLOMS: My concern is that I recognize this and I have set up methods within our company to recognize these things, but I'm not too sure if the reserve standards address it at all and point out to the actuary that the tables we are using do not recognize reopened claims, for instance. They do not leave a place for it or recognize that you should establish a reserve over and above those by the table for claims which will be reopened.

MR. LITOW: I agree. Part of my presentation was that we really need guidelines of practice. There are a lot of areas that I did not touch on.

MR. ODELL: Perhaps I could offer some thoughts that have been at least some comfort to me vis-a-vis reopened claims. Mr. Bragg referred to the development of the cancer tables. I want to confirm your belief that the life and health actuarial literature does not have much on this subject. We looked for it rigorously before we did that cancer study. Mr. W. Keith Sloan directed our attention to information on the Casualty Actuarial Society exam syllabus. I recommend some papers on reopened claims in the Casualty Actuarial Society exam syllabus, which may be of some help to you. There are other papers on that syllabus as well.

MR. ANTHONY J. HOUGHTON: With regard to the question of reopened disability claims, frequently referred to as a recurrent disability, I'm not sure I can think of an exception where the companies I have dealt with have treated them as anything other than a continuation of the original. I know some of the large companies very specifically anticipate reopening when they are setting up annual statement reserves. They consider all the open claims, something for unreported and then they usually have some dollar amount which is logically related to their claim liabilities for reopened claims. I'd like to make a comment with regard to the contractual provisions of certain companies. They will say very clearly that you do not have to be in force if you have recurrence within 90 days or within six months to have the claim be a valid reopening. In others, you actually have to be in force at the time of the recurrent disability in order to collect the benefit. Regardless of the contractual provisions, though, all of them that I have dealt with have treated it as the original date of disability for the claim. With regard to group disability, where there are offsets, most companies, I believe, simply calculate on the benefits they are now paying, which obviously has a margin, and then they recognize the offset when it takes place.

MR. ODELL: Thank you for your comments. I would like to ask anyone who has served on the Academy Committee to favor us with their views.

MR. PETER M. THEXTON: Mr. Bragg, the reference to lapses is in Section IV, (C), (2b). Mr. Houghton gave an example of two claim reserve situations on two contract situations for a recurring claim. One is where the contract required that you be still in force, have paid premiums when the recurrence occurred, and the other is where the contract did not have that requirement. The minimum standards that the Academy Committee put together tried to deal with that by saying that reserves shall be established for those payments that the insurer has become obligated to make in accordance with its contracts as a result of the contract having been in effect on or before the valuation date. Now that doesn't specifically guide you, but it does say, and is intended to be complete in saying, "the insurer has become obligated to make in accordance with the contract." Now, if the contract requires that premiums continue to be paid, then that's what it requires and you are not obligated unless that contingency does occur. The HIAA's comments referred to much earlier were specifically rejected by the Academy Committee on the basis that you have a standard of practice situation here. The requirement that the policy remain in force is equivalent to requiring

that the person continue to pay premiums. For instance, you would assume that 100% of those people who might become recurrent disabilities would, in fact, pay their premiums. Therefore, you have to treat both those contract provisions equally in practice. The Academy Committee believes that is a standard of practice, and the Academy Committee specifically tried to avoid and tried to take out from the standards that they composed everything that was strictly standard of practice, or, in fact, education. They really tried to avoid educating actuaries in setting forth these minimum standards. That was one of the principles. I don't know that they succeeded. I see there are several examples of long paragraphs that really are standards of practice, in my opinion.

The new Appendix C talks about waiver of premium reserves. Perhaps that should be expanded. That's an appropriate place to put some of these standards of practice that Mr. Litow finds so glaringly omitted. I think in many cases they are glaringly omitted from these standards, but it was intentional.

MR. WILLIAM J. BUGG JR: The complete report that was distributed to Mr. John O. Montgomery's committee lists item by item the changes that were made from the September Standards. I would like to comment on my understanding that Mr. Montgomery's committee will need to deal with this report at a fall meeting. I think he needs to get material to the "B" Committee at least 30 days prior to the meeting at which they will adopt or take any action. That meeting will be in December of 1987. Then he will have to have his committee meet in September or October or some timing like that. I think last fall he met for a couple of days right after the Society's Annual Meeting.

The report is to be exposed for six months, but you can see what I am saying is that it really isn't six months. By the time you get your hands on it, you may have 60 or 90 days to really make comments on it.

MR. ODELL: Now that will be re-exposed and mailed out, so everyone will get a copy. Mr. Bugg, would you want to comment on whether or not there are going to be any more actuarial meetings at which these standards will be discussed before Thanksgiving, which is about the cut-off time for commenting?

MR. BUGG: I think Thanksgiving is beyond the cut-off date for comments.

MR. ODELL: Are there any actuarial meetings we know in October 1987, besides the Conference of Actuaries in Public Practice, where there might be an appropriate floor for comment on these standards?

MR. BUGG: I really don't know, perhaps some local or regional clubs might have some meetings. You see, by the time the fall Society meeting comes around, the comment period will have expired. Now, I'm not quite sure of what various steps have been taken to get the material exposed. I think the Health Section of the Society has volunteered to mail the material to all health actuaries. I'm not sure of that, but I understand that has been offered. The Academy may make some mailings. If they do, it will be on a selective basis, as opposed to what was done previously. Mr. Thexton, you may comment as to whether the HIAA plans to take any efforts to get it exposed to the companies.

MR. ODELL: This committee has been laboring for years and regulators feel that a valuation standard has been needed for a long time. So I think it is particularly important that, if after reviewing this material, anyone here feels a need to comment, that those comments go in quickly to whomever the exposure package indicates they should be sent. Let me mention one other thing. Probably the concept of putting lapse rates into a statutory reserving standard was news to a lot of you. In view of that, I think it would be particularly appropriate if Mr. Thexton could favor us with his comments on why that was considered appropriate and, of course, Mr. Bugg, if you want to comment on that too, fine.

MR. THEXTON: I expect to mail out this package that I just received on March 24 to all corresponding officers of member companies and offer to send additional copies. That's the fastest way I have and it involves the least overall expense. People who are interested can get them. But you can always give me a business card. Not all actuaries get sent things from their company's corresponding officers. Sometimes there is a lack of communication. I can put on a covering note saying, "Please direct this to your individual health actuary or personal health actuary and group actuary and so forth," but it doesn't always work. HIAA has a group forum coming up here in May 1987, but I don't believe this subject is expected to be discussed there. The individual forum program is usually late in October. That program is not finally set. It could be put on

there, but it is getting awfully late to have further discussions. I don't think I would push to get it put on the program there.

With respect to lapse rates, they have been inserted here as a permitted part of the valuation standard for, it should be pointed out, guaranteed renewable type B contracts only. They are called type B. The new type B does not include noncancellable, which is type A. Noncancellable is all set aside. The lapse rates proposal does not apply to noncancellable at all. Type B is guaranteed renewable. The question of conditionally renewable is not addressed in the standards. Furthermore, type B deals with scheduled benefits. "Specific benefits at time period rates" is the way it is expressed. Time period rates are disability, hospital indemnity or anything of that nature, as opposed to open-ended major medical and so forth. The lapse rates specifically named are designed to be permitted to be used with respect to type B reserves, which are tabular reserves -- the traditional reserves that we are all familiar with. That's the only place it would be used. It was done because of the very important and realistic financial effect. In effect, it reduces the tabular reserve standard for this type of contract from what the current standards are and have been for 20 or more years. It's a definite reduction in the minimum reserve standards. You need to know that. The committee did it because it seemed a reasonable reduction. Existing standards are too high, so that's why they did it.

MR. ODELL: We appreciate that. Do you have anything to add on that, Mr. Bugg?

MR. BUGG: Well, I might add that the mortality assumption in the calculation of the tabular reserve is really a decrement assumption. If you look at the decrement set, you realize that limiting the assumption to just mortality might mean that at ages 30 or 40 on some contracts, you will have a decrement that may be as small as 1% of what the real decrement is. At ages 60 or so it might be a fourth of what the decrement might be. So, like Mr. Habeck commented, what do you do when there is a redundancy of 50% to 60% in your reserve? If you would look at the reserve calculation taking into account a realistic decrement, that's the magnitude of redundancy that you get in some of these reserves if you limit your decrement assumption to just mortality.