

HEALTH PRACTICE NOTE 1995-4
November 1995

Individual Major Medical Business

Introduction

This practice note was prepared by a work group organized by the Committee on State Health of the American Academy of Actuaries. The work group was charged with developing a description of some of the current practices used by health actuaries in the United States. This work group was originally formed in 1993 and issued the first set of Health Practice Notes that year; changes have been made to this set of practice notes to reflect additional information on current practices.

The practice notes represent a description of practices believed by the work group to be commonly employed by health actuaries in the United States in 1995. The purpose of the practice notes is to assist actuaries who are faced with the requirement of preparing a statutory statement of opinion by providing examples of some of the common approaches to this work. However, no representation of completeness is made; other approaches may also be in common use. It should also be recognized that the information contained in the practice notes provides guidance, but is not a definitive statement as to what constitutes generally accepted practice in this area. Moreover, these practice notes are based upon the model Standard Valuation Law of the National Association of Insurance Commissioners (NAIC). To the extent that the laws of a particular state differ from the NAIC model, practices described in these practice notes may not be appropriate for actuarial practice in that state. This practice note has not been promulgated by the Actuarial Standards Board, nor is it binding on any actuary.

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Comments are welcome as to the appropriateness of the practice notes, desirability of annual updates, substantive disagreements, etc. Comments should be sent to Peter L. Perkins at his Directory address.

Q. What does this practice note address?

A. This practice note addresses questions and issues regarding the valuation actuary's responsibility for compliance with the model Standard Valuation Law (SVL), the NAIC model *Actuarial Opinion and Memorandum Regulation* (hereafter the *Model Regulation*), and the Actuarial Standards Board's actuarial standards of practice as related to preparing a statutory

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statement of opinion on major medical insurance individually solicited, sold, purchased, and underwritten, whether done through the traditional individual contract, or through group trust or group association contracts. The practice note specifically addresses the work that is undertaken to support such a statement of opinion, in particular that regarding compliance with legal minimum reserve standards, adequacy of reserves, and asset adequacy.

Q. Why is it important to have a practice note unique to individual major medical products?

A. While all types of health insurance deal with claim costs as the major obligation risk, the year-to-year volatility, size, and growth trend of this risk generally are far greater for major medical insurance than for others. Further, individual major medical deals with an environment in which future premiums frequently increase at a slower rate than claim costs, and the ability of the insurer to relinquish or reduce its risk is, in general, more restricted than under group major medical health insurance products. The combination of these three elements is unique to individual major medical policies, creating a need for specialized guidance to support the valuation of such policies.

Q. What are the risks for individual major medical business that affect the minimum reserve requirements, the adequacy of reserves, and the adequacy of assets?

A. While the *Model Regulation* lists six risks that may or may not be applicable to various lines of business (morbidity, mortality, lapse, credit quality, reinvestment, and disintermediation), morbidity and lapse are those generally considered the most important. These are categorized as *obligation risks*. Mortality, also an obligation risk, generally presents a relatively insignificant risk to the individual major medical business. The other three risks are classified as *asset risks*. The asset risks are also typically considered relatively insignificant for most individual major medical business.

In practice, these major risks are generally evaluated in their smaller components as noted below:

1. the insurer's ability and/or willingness to adequately fund future claim costs through premium rate changes, due to regulatory or management strategy reasons;
2. premium rate adequacy;
3. premium rate structure;

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4. morbidity levels;
5. morbidity trend;
6. durational factors on morbidity, underwriting selection wearoff, and adverse lapse;
7. lapse;
8. health care reform implications, e.g., renewability and rate restrictions, and guaranteed issue possibilities;
9. expenses, particularly commissions, settlement, and general renewal; and
10. reinsurance.

Q. How are the risks listed above being accounted for via adequacy testing and determination of minimum reserve compliance in other than claim and premium reserve categories?

A. An opinion of minimum compliance is required for both Section 7 and Section 8 situations of the *Model Regulation* to the SVL. In states where minimum reserve requirements are more stringent than a single gross unearned premium total, at least contract reserves are normally evaluated, and often gross premium valuations are used.

In Section 8 situations, contract reserve calculations, gross premium valuations, or a cash flow testing approach can be used to satisfy the actuary that reserves are adequate. Some actuaries use a combination of these, while others rely on one over the other depending upon the particular risks (see above) that are most applicable.

Q. To what extent are valuation actuaries recognizing, or otherwise taking into consideration, business not yet issued as of the valuation date?

A. Since the SVL is concerned with reserve and asset adequacy, only risks that are attributed to in-force business are considered under the model law. However, the common practice with regard to expense obligations is to consider future expenses that are attributed to in-force business in an ongoing concern environment, not those that would occur if the company were to completely shut off new sales (recognizing that some portion of developmental and certain fixed-overhead expenses need not be totally covered by in-force policies, but may be allocated to future sales).

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Similar treatment of investment allocations are generally considered.

Q. What are the practices in use to comply with minimum reserve standards and to demonstrate reserve adequacy that relate to various rating structures (e.g., attained age, durational, level, etc.)?

A. Generally, the practices depend upon the following:

1. the situation the actuary's company is in regarding whether an actuary is opining on compliance with statutory minimum reserve standards, as required under both Section 7 and Section 8 opinions; or whether the actuary is opining on reserve adequacy as required under Section 8 (see Section 6 of the revised NAIC model *Actuarial Opinion and Memorandum Regulation* for determination criteria);
2. the rate structure of the policies;
3. the potential that future premiums may be inadequate because they are restricted for regulatory, company strategy, or other reasons;
4. the renewability provisions of the policies; and
5. the minimum valuation standards in place where the opinion is being filed.

Contract reserves (also called *additional active life reserves*) is the label given to the category of reserves that come about naturally from *rate structures*. Using the terminology of the latest NAIC model law *Minimum Reserve Standards for Individual and Group Health Insurance Contracts*, contract reserves also include reserves resulting from expected *inadequacy of future rates* (i.e., the inability of future premiums in combination with existing reserves to fund future costs). Actuaries who must satisfy at least Section 7 or also Section 8 requirements are required by the SVL to opine as to compliance of these categories of reserves. The following provides discussion regarding practices that relate to various rating structures.

1. *Issue-age-rate structured policies*—Under many state laws, actuaries are calculating contract reserves for guaranteed renewable policies with issue age premium structures. The most common practice is to use a factor-type approach, or an alternative equivalent to it, to determine compliance with minimum reserves. Reserves per unit inforce, i.e., *factors*, are calculated for each valuation cell, and then applied to business that is inforce on the valuation date. For every gross premium increase, new factors are generally developed by simply multiplying the old factors by a percentage increase in morbidity that underlies the gross premium increase, which frequently is

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the same percentage increase in gross premium. Some actuaries take a more accurate approach at re-rate time by redeveloping new factors based on developing only new net premiums for future years from new morbidity assumptions. Old net premiums and old morbidity assumptions remain unchanged.

2. *Levelized structured policies*—In the context of this practice note, *levelized* means the funding of claim costs over policy durations via a gross premium structure that produces higher premium rates in the early years relative to its claim costs than in later policy years. A *levelized structured premium rate*, other than the issue age structure, is a specific case of what is commonly referred to as *attained-age structured premiums*. (Premium structures described in paragraphs 3 and 4 below are the other cases.) Actuaries commonly determine whether attained-age structured premiums are levelized by direct examination of the gross premium filing memoranda and internal company rate creation files, or by a more indirect examination of loss ratios. Loss ratios that are expected to rise by duration generally indicate a levelized structure.

One practice in use to calculate contract reserves is to follow a factor approach, or an alternative equivalent to it, similar to that described for issue-age-rate structured policies above. The only significant difference in practice from the issue-age factor approach is that, for levelized structured policies, the projection period may be limited to the period over which premium rates have been calculated, instead of through the lifetime of the contract.

A variation of the factor approach is the use of an aggregate retrospective approach. This method, if performed accurately, should produce the same reserve as the factor approach; however, it is more commonly considered an estimate technique than a valuation approach, particularly found useful for smaller closed blocks of business. This is a method whereby an estimate of cumulative net premiums earned is reduced by an estimate of cumulative expected claims to produce the contract reserve. Cumulative net premiums are estimated by multiplying the anticipated lifetime loss ratio by the cumulative gross premiums earned. Cumulative expected claims are estimated either as the sum of the products of each past year's premium and its respective durational expected loss ratio; or by the product of cumulative actual experienced claims by the ratio of cumulative expected loss ratio to cumulative actual experienced loss ratio.

Other actuaries perform only gross premium valuations to determine the contract reserve equivalent.

The benefit ratio reserves method is another alternative method to estimate contract reserves. This method has received actuarial discussion, although the authors are not certain of its use in practice. In its simplest form, *benefit ratio reserves* are the reserves determined by multiplying the total cumulative earned premiums to date on a block being valued by the difference between the anticipated lifetime loss ratio and cumulative actual experienced loss ratio. The method is considered to provide a good approximation of the factor approach for business where

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expectations on claim experience are close to that being realized. With the adoption of more state laws regulating rates via guaranteed loss ratio requirements, this practice may become more prevalent, not so much as an estimate of factor-type contract reserves, but one of measuring liabilities that are unique to the guarantees. Detailed discussion of the method is documented in *Transactions*, vol. XL, published by the Society of Actuaries.

The prevalence of one practice over another, and even the practice of establishing contract reserves at all, varies to some degree, depending upon applicable state reserve laws. At least one of the above described practices is in use for actuaries opining on material blocks of business attributable to states that have adopted laws similar to NAIC minimum reserve standards. When the block of business residing in an NAIC model-reserve-type state is relatively minor in size compared with the entire company's health insurance business, the actuary commonly chooses to review the margins of adequacy in all the business as a whole to determine if the margin is great enough to exceed even a most conservatively calculated contract reserve attributable to the minor block of business. If so, the actuary commonly would not conduct a separate contract reserve calculation. For business in states that have not adopted such requirements, the above practices are not extensively applied, unless an actuary is in a situation comparable to that created by Section 8.

3. *Fully durational-rated premium structure*—Under the rating structure in which the premium rates for any current or upcoming duration fully fund for the claim costs in that year, actuaries generally perform no contract reserve calculations. While this rating structure is not very common for new business, or that in its early policy years, it is not unusual for renewal business on closed blocks.

4. *Aggregate pooling rate structure and community rating*—The *aggregate pooling rate structure* is the rating structure in which premium rates for any upcoming period, usually 1 year, are established to fund exactly that one period's worth of claim costs, considering the mix of business and trend. Community rating is a more specific example of this general rate structure. The common practice here is to perform no contract reserve calculations.

5. *Inadequacy of future premiums*—Regardless of the premium structure (see paragraphs 1, 2, 3, or 4 above), there may be times when the actuary suspects that future premiums may be inadequate. In such instances, for policies falling under the jurisdiction of states that have adopted laws similar to the latest NAIC model reserve laws, actuaries will often calculate the additional reserves attributed to the inadequacy by making appropriate adjustment to their

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calculation methods for contract reserves; or, more commonly, actuaries may perform a gross premium valuation.

For those policies opined on where a Section 8 opinion is required of the company in jurisdictions that have passed the SVL or a statute similar to the SVL, it is most common to rely on gross premium valuations in addition to those commonly practiced approaches for minimum compliance as described in paragraphs 1–4 above. For actuaries who use a factor-type approach for minimum compliance purposes, it is not uncommon to forgo a gross premium valuation in circumstances where the factors conservatively account for underlying assumptions and the potential of future rate inadequacy.

Q. How long are actuaries setting projection periods in calculations that are being performed to support a statement of opinion?

A. For issue-age-premium structured policies that are guaranteed renewable or noncancelable, it is common practice for actuaries to run projections until the projected inforce is insignificant, or to the terminal age of the policy.

For all other premium-rate-structured policies, it is common to project at least through any period for which premiums are levelized (see above) and possibly through to the end of the current pricing period, i.e., the period over which premium rates have been calculated, unless there is reason to believe future premium rates beyond that period may be inadequate, possibly due to regulatory or company strategy reasons. When there is reason to believe that future premium rates may be restricted, then the projections are usually run until future values become insignificant, or until the actuary believes the rate restriction situation no longer will exist.

There are also practices for these other premium-rate-structured policies where actuaries are always performing projections to points in time where values become insignificant. This seems to be more common for Section 7 opinions in states that have passed the latest NAIC model reserve laws, and where renewal pricing strategies call for the linking of renewal rates with rates on currently issued policies.

For those actuaries opining in companies requiring a Section 8 opinion, common practice generally is to project a few years beyond the pricing period for attained-age-rated business if there is no reason to believe rates will be restricted, and to project to points in time where values become insignificant when there is reason. For issue-age-rated policies, the projection periods do not commonly differ by the applicable situation (Sections 7 or 8) to the company. Usually the projection period continues to the term of the contract.

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Q. Are actuaries combining closed blocks of business with open ones for the purposes of projections?

A. Generally, blocks of business that are combined for rate filing purposes define the blocks for which projections are performed. However, when rating blocks are combined further, the actuary makes a judgment as to the degree some forms' premiums within the combined block may be subsidizing other forms, and then takes into consideration how viable it is that such subsidy will continue and for how long.

Q. What morbidity assumptions are used?

A. It is common for actuaries not to use a morbidity table in either contract reserve calculations or gross premium valuations, whether analyzing reserve adequacy (as required for Section 8 opinions) or determining minimum reserve compliance (required under both Sections 7 and 8 opinions.) Alternatively, actuaries are using loss ratio expectations applied to premiums in appropriate alternative calculations.

For actuaries who use morbidity tables, the pricing morbidity table underlying the original set of premium rates for a form, adjusted in future years by subsequent changes in costs (due to inflation, morbidity trend, benefit changes, antiselection, durational influences, etc.) and variation in benefit mix (which occurs when forms are blocked—see above), is often used for contract reserve or gross premium valuation purposes. Some valuation actuaries adjust the pricing morbidity table in years subsequent to the original pricing year by the applicable gross premium percentage rate increases, while others use redeveloped tables. The latter practice is more common when tables are also redeveloped for renewal gross premium pricing purposes.

Q. For valuation actuaries following the NAIC model law *Minimum Reserve Standards for Individual and Group Health Insurance Contracts*, to what extent are future yet-to-be-established premium increases and claim cost changes used in determining minimum contract reserves?

A. Such changes are usually not recognized on the assumption that future premium rate increases will be set to cover fully the increases resultant from future claim cost increases.

Another practice is to recognize the same percentage increase in future premiums as that assumed for future claim costs over the projection period.

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In either case cited here, if the actuary has reason to believe that future premiums may not fully cover future claim costs and expenses, then an additional reserve is commonly established by appropriate adjustment to the contract reserve method being used, or by performing a separate calculation, such as a gross premium valuation.

Q. What are the practices in place to determine the risk that premium levels in the future may not be adequate along with existing reserves to cover the future obligations of the policies, either because of regulatory or other reasons?

A. The practices depend upon the situation of the company as to whether a Section 7 or Section 8 opinion is being provided. Special considerations in applying practices described earlier are most commonly made in Section 7 opinion situations operating in states that have passed NAIC model-reserve-type legislation, and to Section 8 opinions in all cases. For actuaries expressing Section 7 opinions in states without NAIC model reserve laws in place, it is not unusual for the actuary to forgo any special practices, unless the entire line of business is obviously threatened by the inadequacy possibilities.

The valuation actuary may recognize that the possibility exists of rate increase delays beyond those anticipated in the calculation of the renewal premium rates. This is frequently done by using the company's historical state approval patterns to determine what proportion, and to what extent, future premiums may be delayed beyond that assumed in the renewal pricing. The actuary then makes an appropriate adjustment.

Consideration of the likelihood of state health care reform legislation or regulation that may undermine the adequacy of future premium revenue along with existing reserves is becoming more important. This is particularly true for companies active in states pursuing such reform.

In states where individual health insurance premium rates are regulated via minimum loss ratio standards, actuaries usually consider the possibility that future premiums may need to be restricted to meet overall lifetime minimums. The likelihood of this occurring is considered particularly high in situations on forms that have high loss ratios in recent years but that maintain low lifetime cumulative loss ratios. It is common in such situations for the actuary to perform a gross premium valuation on the entire block of business to determine the shortfall. Such shortfall becomes an additional reserve. Often projections made during the renewal rating process provide the magnitude of the shortfall.

In states that have enacted some type of guaranteed loss ratio laws, particular consideration is given to how the nuances of the laws might affect future premium rates, especially if the experience on any forms indicates that a refund is possible.

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Q. What methods are used to recognize changes in claims pending and claims backlogs in determining claim reserves?

A. For reserves determined via the use of a loss ratio projection method, no other method is commonly considered necessary.

For reserves determined via the developmental method, an extraordinary adjustment is normally considered appropriate. An estimation of the backlog amounts over and above normal backlog, based on numerical data and/or personal interviews with the appropriate claim processing personnel, is added to (or subtracted from) the reserve developed in the normal fashion.

Q. How are claim settlement expenses treated?

A. A reserve equal to projected settlement expenses for claims in which a claim reserve is determined as necessary is the common approach. The reserve settlement expenses are often based on a history of the ratio of settlement expenses to paid claims.

Some actuaries forgo the calculation when they believe there is an implicit offset between investment earnings and loss expenses.

Actuaries may add known, or probable, litigation costs on open claims when such costs are determined to be amounts that are in excess of the amounts implicit in the method used to determine claim reserves.

Q. How are extraordinarily large claims, either unreported or in process, treated in claim reserves?

A. It is common to explicitly adjust reserves only for the largest of known outstanding claims by an amount likely to be paid out on the claim in excess of the average claim amounts and any margin attributed to the reserve on that average, implicit in the method used to determine claim reserves.

An examination of the nature of the claim can determine if the claim is due to a new procedure or condition, which then might indicate that the method in general is lagging in the recognition of such claims, so a case reserve adjustment is commonly made.

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Q. How are incurred dates set for purposes of determining the beginning of a claim liability (e.g., service date, cause date, or other)?

A. The contract provisions and the pricing practice are usually considered together to determine the incurred date. For example, common contract provisions today create an obligation to pay claims based on service date. When the pricing also is calculated on the same basis, the contract date is usually relied on. When the pricing practice is to charge for covered medical costs, assuming a liability date other than that created by contract provisions, the actuary generally uses the date that produces the largest reserve.

Some actuaries choose to consider the date of the cause of the claim, or the first date after a deductible is met, regardless of a service date contractual provision.

Standard Valuation Law Section 7 Opinions

Q. In many states there are no minimum standards that address both the long-term nature of the insurer's obligation to provide benefits (often as long as to the insured's 65th birthday) and many of the issues cited in the above sections of this practice note. What are actuaries doing when preparing Section 7 opinions for these states?

A. Since a Section 7 opinion strictly requires the appointed actuary to opine as to compliance with minimum legal standards, and not on reserve or asset adequacy, some actuaries follow the minimum as specifically as the state requires. This may mean establishing only gross unearned premium and claim reserves. Some states do not specify standards, per se. The laws may state requirements in broader terms, such as requiring a *reasonable* level of reserves to provide for policy liabilities. In such instances, actuaries exercise professional judgment as to minimum reserve levels. A safe harbor for this judgment may be reliance on the latest NAIC model law, *Minimum Reserve Standards for Individual and Group Health Insurance Contracts*.

Since opining on compliance with minimum legal reserve standards is a requirement of both Section 7 and Section 8 opinions, issues and practices surrounding these are covered in earlier sections of this practice note.

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Standard Valuation Law Section 8 Opinions

Q. Are reserve adequacy and asset adequacy being determined by a single method, or in combination, such as in a cash flow testing method or gross premium valuation method?

A. Due to the nature of the product line, the asset risks are commonly considered to be nominal relative to obligation risks. Consequently, actuaries are not, as a rule, analyzing the interaction of asset adequacy with that of the obligation risks in the most formal of ways, that is, the cash flow testing method. However, gross premium valuation methods are common, and often called for in compliance with minimum reserve requirements. As a matter of performing these, some actuaries are finding it convenient to test adequacy of investment earnings as an asset risk as part of that method. Some actuaries who have not performed gross premium valuation tests on the methods they use to comply with minimum legal reserves are now planning to do so because of the convenience of testing both asset and reserve adequacy in one step.

Q. What types of asset adequacy analyses are being performed?

A. It is common to review the quality of the assets and to determine that the term and yield of the assets generally match the term and interest assumptions of the reserves. Due to rate restrictions or management strategy, the revenue upon which obligations of the insurer will be met depends to a much greater extent on obtaining adequate and timely future premium rate increases than on the adequacy and earnings of the assets backing the reserves. Thus, the actuary commonly makes a judgement as to the materiality of the assets' vulnerability to default and investment earnings potential relative to the sensitivity of obligation and other risks before deciding whether a specific asset analysis will be performed at all. In most cases, unless either a gross mismatching occurs between asset term and average term of liabilities, or unless poor quality assets exist, no further analysis on assets is performed.

An actuary can generally demonstrate the relative immateriality, if it exists, by comparing net premium to incurred claims in the past. If cumulative past net premium less any reserves at the end of the testing period has consistently covered the incurred claims in the past, the investment earnings would have played an insignificant role in funding for the claims. Another way to demonstrate the immateriality is an occasional performance of a cash flow model test on the business, or gross premium valuation testing for sensitivities of the investment assumptions relative to the obligation variations.

In some instances, actuaries are performing cash flow testing as a method to demonstrate compliance with Section 8 opinions. In such cases, variations on investment earnings and default

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assumptions are being tested for sensitivity along with variations on the other risks, such as premium rate increase, morbidity, lapse, and health care reform.

Q. What particular sensitivity analyses are being performed in the method used to test reserve adequacy?

A. The actuary commonly concentrates his or her efforts on key risks. These are listed below with a comment as to considerations made in selecting the magnitude of the variations on each of these sensitivity tests.

Morbidity levels—Size and recency of the data base used to support the morbidity level, the similarity of the benefits for which the morbidity levels were based, and the study technique used are all factors taken into consideration.

Morbidity trend—Normally 1 or 2 years of trend are given careful evaluation. Beyond 2 years, the actuary commonly considers sensitivity testing less important as adequacy becomes more a function of re-rate ability. In such cases it is common to assume that premium rate increases are not independent from trend, so sensitivity tests on premium rate increases can replace the separate trend testing.

Morbidity by duration—Sensitivity to variations in morbidity by duration is considered more important for newer policy forms or blocks of business in early policy duration. The magnitude of the variations tested commonly varies by the size of the block of business and the similarities of the block's risks to blocks of historical business. The larger the magnitude and more similar the risks, the more common it is to test sensitivity for smaller variations in morbidity assumptions. For policies priced on an aggregate basis, additional consideration for coordination with the persistency assumptions is important, because such assumptions change the durational mix assumption of the business.

Persistency—Similar to morbidity by duration, the magnitude of the variations tested commonly varies by size of the block being analyzed and the similarities to historical blocks. When the actuary is aware of a situation that may cause an unusual variance, e.g., a regulation change or a product change by the company that may entice in-force business to rewrite, the actuary commonly performs tests with higher levels of volatility based on reasonable expectations.

Expenses—It is not very common to test variations on expenses, as they are usually dwarfed in size and volatility by the other assumptions noted above, unless there has been a significant change in the way of doing business (e.g., new distribution channels, agents incentive program changes, acquisition or sale of business, etc.).