PRODUCT DEVELOPMENT NEWS

ISSUE 45 MARCH 1998

Chairperson's Corner

by Mark A. Milton

I look forward to serving as Chairperson of the Product Development Section Council this year. I would like to thank outgoing Council members Alan Ryder, Linda Streck, and last year's chairperson, John Fenton. Their efforts were largely responsible for making this past year so successful, and we will miss their many valuable contributions.

This year's Council also plans to actively serve our membership and has already identified several projects for the coming year. We will have 18 sessions at the Spring Meeting in Maui and are beginning our planning for the New York Annual Meeting.

We plan to vigorously support Society research activities. We understand the importance of timely information in today's marketplace and are committed to providing you with this service. We review several potential research projects each year that are requesting support and value your input on research projects that you would like to see initiated or funded.

We currently have plans for at least four seminars this year. The "Emerging Markets For the New Senior Citizen," seminar will be held November 16–17

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New Standard Nonforfeiture Law: Unsafe at Any Speed?

by Douglas C. Doll

The effort to revise the Standard Nonforfeiture Law (SNFL) ran out of gas at the December 1997 NAIC meeting. There was general agreement that no consensus exists on how to complete the project. The current initiative to revise the Standard Valuation Law and ongoing discussions related to disclosure (primarily for annuities) provided a convenient excuse to suspend nonforfeiture work. The Nonforfeiture Working Group was disbanded.

Although it is stalled by the roadside, the new SNFL is not yet consigned to the junkyard. The Life and Health Actuarial Task Force still has a 1998 charge to present recommendations at the winter meeting for "specific parameters for a new nonforfeiture law for life insurance, health insurance, and annuities." Perhaps it expects that the proposed new Standard Valuation Law, a first draft of which is expected in June (!), will provide the insight to deal with the nonforfeiture problems. Alternatively, it may become obvious that the current SNFL will be incompatible with a new valuation law, forcing the SNFL to be readdressed. For example, how can a nonforfeiture maximum interest rate be 125% of a valuation interest rate, if there is no fixed formula for valuation interest rates?

What went wrong with the nonforfeiture effort? The biggest roadblock was the question of how to deal with nonguaranteed elements. Once you accept that an equitable nonforfeiture value is based on the future values in the contract, you have to consider the value of future nonguaranteed elements. This naturally requires a "plan" for determining the future nonguaranteed elements (just as you must have a plan or strategy for nonguaranteed elements when you do product pricing or perform cash-flow testing).

It is then a small step to say that this "plan" should be disclosed to regulators and policyholders and not changed except for good reason. Some life insurance companies are not happy about restricting their freedom to change nonguaranteed elements, and some regulators are not happy with the idea of allowing a company to have a plan that says "I can do whatever I want."

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in Charleston, South Carolina. This seminar will provide a comprehensive look at the demographics and needs of today's senior citizens, as well as product design, underwriting, and distribution issues.

We also plan to offer an advanced-level seminar on Equity-Indexed Products targeted at those with experience with equity-indexed annuity and life products.

A third seminar will take an in-depth look at the current term-insurance marketplace, including underwriting, *Guideline XXX*, product design, distribution, compensation, and reinsurance.

In addition, we will offer our Product Development Bootcamp later in the year. The seminar material will be revised to better meet the needs of the target audience. It will incorporate basic product design and pricing issues, as well as provide an overview of the product development process and how product development fits into a company's overall strategy.

Many of you have expressed concerns about profitably pricing products in today's competitive marketplace. Clearly, the role of the product development actuary must extend beyond merely setting assumptions and running profit studies. The actuary must understand what is happening in the marketplace and provide advice and insights on how to respond. It seems to me that today's product actuary must wear many hats, from researcher to marketer to product manager. The Section Council is committed to helping you obtain the skills and information needed to compete in today's environment.

I welcome any ideas you have to help the Section Council serve the members during the coming new year.

Mark A. Milton, FSA, is Vice President and Associate Actuary at Kansas City Life Insurance Company in Kansas City, Missouri and Chairperson of the Individual Life Insurance and Annuity Product Development Section Council.

New Standard Nonforfeiture Law
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Some assert that "I can do whatever I want" is acceptable, as long as there is adequate disclosure. There was a discussion at the December meeting on whether insurance companies should not market products that fail to meet certain minimum levels of benefits, just as manufacturers should not sell cars that are "unsafe at my speed." A lengthy discussion followed on how consumers and regulators could identify "unsafe" products and the appropriate to relationship among disclosure, valuation, and nonforfeiture standards.

The result of all the discussions was to switch to a smaller, more fuel-efficient vehicle. A newly formed working group, the Innovative Products Working Group, has been set up. Its charge is to discuss how existing valuation and nonforfeiture laws and regulations apply to new product designs and, where appropriate, to develop new model language or actuarial guidelines. Initially, its focus will be on equity-indexed products. This group will address specific nonforfeiture issues, while the Life and Health Actuarial Task Force makes general progress on disclosure, valuation, and (eventually) nonforfeiture.

The Life and Health Actuarial Task Force has chosen to address the big picture. It has not lost all hope for the SNFL. In fact, its charges include finalizing the new Model SNFL at the Winter 1999 meeting. Who knows? A six-month pause … some new gas in the tank … this vehicle may continue to run for quite a while longer.

Douglas C. Doll, FSA, is with Tillinghast-Towers Perrin in Atlanta, Georgia.

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The Section would like to encourage articles and papers on product development topics or subjects of interest to product development actuaries. If you have an article or an idea for an article that you think might interest Section members, please contact:

David G. Whittemore, FSA
Product Development News Editor
Tillinghast/Towers Perrin
12377 Merit Drive, Suite 1200
Dallas, TX 75251

Phone: 972-701-2744 Fax: 972-701-2575 E-mail: whitted@tillinghast.com

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Substandard Lives: Cost of Insurance Charges for Unbundled Products—Mathematics You Can Use

by Johan L. Lotter

How good is your market conduct when you deal with substandard lives? If you are determining substandard extra cost of insurance charges for universal life or variable universal life policies on the numerical rating system, you may be using the following formula to determine your current and guaranteed charges:

$$COI_x' = (1+k)COI_x - e \qquad \text{(A)}$$

where:

COI_x'	is the substandard monthly cost of insurance rate per mille
COI_x	is the standard monthly cost of insurance rate per mille
e	is an expense loading adjustment (often implemented as zero)
$100k$	is the extra mortality percent on the numerical rating system.

Your reasoning may be that the above is consistent with the numerical rating system as interpreted by the following equation:

$$q_x' = (1+k)q_x \qquad \text{(B)}$$

where:
q_x' is the substandard mortality rate
q_x is the "standard" mortality rate.

You may feel uncomfortable about the practice as described above because:

(a) You may have questions about the application of the numerical rating to some vague "standard" mortality rate, since "standard" would have different meanings for different companies, yet the underwriting manuals used by companies are often produced by reinsurance companies and are not company "standard specific."

(b) You may also be aware that Equation B above breaks down for large values of k and high ages, yielding a paradoxical result when q_x', which is a probability, exceeds unity.

If you are aware of the paradox mentioned in (b) above, you may have adopted a practical approach in which you have set an arbitrary condition such as the following:

$$COI_x' \le \frac{1000}{12} \qquad \text{(C)}$$

Implementation of Equation C sidesteps the untenable consequence that the risk charge exceeds the sum at risk at high ages. But it remains unscientific, theoretically unsatisfactory, and unfair from the policyholder's point of view.

First, at some time before the maturity date, Equation C sets, on an annual basis, the risk charges close to the annual sums at risk, leading to visibly excessive cost of insurance charges.

Second, Equation B may imply that a life, having survived to age x, has zero probability of attaining age $x+1$, a result which many would regard as not scientifically defensible.

Third, Equation C almost forces the policyholder to surrender before the maturity date. This could lead to adverse tax and other consequences for the policyholder and to eventual dissatisfaction.

Actuaries cannot afford to regard the potential problems caused by the above "popular" approach as only becoming "real" at some point in the distant future. The mere fact that the policy was issued with treatment implied by Equation B, could lead to current market conduct questions.

The problems posed by implementation of Equations A, B, and C above, referred to hereafter as the "popular" approach, are readily eliminated by a more satisfactory theoretically "correct" approach. In what follows, we demonstrate how:

- The "correct" approach leads to a consistent, scientifically viable and useful treatment of substandard extra mortality at all ages
- The "popular" approach can be reconciled with the "correct" approach if it is acknowledged that the "popular" approach is a "first-order" approximation to the "correct" approach.

It is helpful to recognize that:

(a) When the actuary is concerned with the equitable treatment of impaired lives, "own-company" relative mortality is at issue, absolute mortality is not.

(b) The numerical rating system was devised to express relative mortality. It furnishes no information about absolute mortality.

(c) For any portfolio of insured lives, relative mortality can be measured without knowing anything about the absolute mortality of the lives being studied.

(d) A sensible way of measuring relative mortality would be simply to compare relative survival ratios of (1) those lives considered by the insurance company as substandard risks, and (2) those lives considered by the company as acceptable at standard rates, appropriately striated.

(e) A straightforward method, involving the least number of assumptions, would be to avoid making assumptions about expected deaths and to "count" survivors among lives classified as standard risks at issue and (striations of) lives not so classified.

Such "count" would enable the actuary to directly measure relationships such as Equation D below, where the

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Substandard Lives: Cost of Insurance Charges
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substandard one-year survival rate is expressed as the standard rate, raised to an exponent, $(1+m)$; that is:

$$p_x{}' = p_x^{(1+m)} \tag{D}$$

where:

p_x is the one-year survival rate for unimpaired lives

$p_x{}'$ is the one-year survival rate for impaired lives.

We observe that m is a useful measure of the relativity of one-year survival rates and that, if $m = 0$, the one-year survival rate for the impaired class is equal to the one-year survival rate of the standard class. If m is greater than zero, it has the effect of reducing the one-year survival rate.

Equation D immediately leads to Equation E below, which can be written in the form of Equation F:

$$(1-q_x{}') = (1-q_x)^{(1+m)} \tag{E}$$

$$q_x{}' = 1-(1-q_x)^{(1+m)} \tag{F}$$

Equation F enables ready calculation of substandard mortality rates for any age and any m.

It is instructive to consider Equation F after binomial expansion as in Equation G:

$$q_x{}' = (1+m)\,q_x - \frac{(1+m)m}{2!}\,q_x^2 + \frac{(1+m)m(m-1)}{3!}\,q_x^3 - \ldots \tag{G}$$

If we ignore powers of q_x greater than unity and substitute k for m in Equation G, it reduces to Equation B (the "popular" approach). For large m and q_x, however, the second term on the right hand side of Equation G is significant and, when ignored, leads to the problems and anomalies inherent in the "popular" approach.

Once one appreciates that Equation B leads to a logical "dead end" and that assignment of a $100k$ percent numerical extra rating really means replacing m with k in Equations D, E, F, or G, the numerical rating is clarified with respect to its meaning and application, and one can immediately see that the "popular" approach is a first-order approximation to the "correct" approach.

The "correct" approach can be implemented as set out below:

$$\frac{COI_x^1}{1000} = 1-\left(1-\frac{COI_x}{1000}\right)^{(1+k)} - a(x,k)$$

where $a(x,k)$ is an adjustment "extracting" excess expense loadings (if any) in the cost of insurance rates.

While the "correct" approach is scientifically and logically defensible, the "popular" approach is not. In traditional products, the premiums calculated on the "correct" approach do not differ very much from those on the "popular" approach. In unbundled products, the deficiencies of the "popular" approach are completely and embarrassingly visible. The "popular" approach can lead to policyholder dissatisfaction when the cost of insurance deductions approach the magnitude of the sums at risk. The correct approach avoids potential market conduct difficulties.

Johan L. Lotter is a consulting actuary and president of Lotter Actuarial Partners Inc., in New York, New York.

Pitfalls in Equity-Indexed Products

by Jay Glacy

Note: *This article first appeared in the November 1997 issue of* small talk, *the Smaller Insurance Company Section Newsletter*.

Equity-indexed products burst upon the scene in 1996 and interest in them remains high, rivaling the waves of second-to-die product development in the late 1980s and universal life product development in the early 1980s. The future of indexed products probably holds more marketplace entrants, innovative second- and third-generation designs, some unexpected regulatory wrinkles and, in general, more controversy. The complexities associated with equity-indexed life and annuity products already create a number of general misconceptions about them. This article identifies some key pitfalls in developing equity-indexed products and suggests some steps insurers can take to avoid unpleasant financial surprises.

Macro Product Management

A common way to think about pricing single-premium deferred-indexed annuities contemplates the purchase of a zero-coupon bond to fund nonforfeiture law minimums in conjunction with the appropriate S&P 500 Index hedging instrument. In this simplified framework, the present value of profit is what is left over. But some important things are overlooked in this formulation. First, the question of how the insurer intends to fund the hedge purchase for those policyholders persisting beyond the first

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Pitfalls in Equity-Indexed Products
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index term is ignored. There will be no renewal premium conveniently arriving at the beginning of the second term, and the first-term hedge payoffs all belong to the annuitant. Thus, the concept of a "hedge budget" and how such hedge outlays are planned and made becomes central to the economic viability of an indexed product.

Second, anticipating second-term persisters can have a dramatic effect on the investment choices an insurer otherwise would make. Hedges or bonds timed to mature at the end of the initial index term turn into cash, while, with luck, not all policies will. The ability to move out on the yield curve to garner the higher investment yields that typically exist there is a key competitive advantage. So is the hedging flexibility that accompanies the recognition that hedges don't necessarily have to pay off at the end of the index term. In addition, the insurer will need to adjust its declared participation rates in renewal terms to accommodate changing hedging costs.

Finally, some hedging strategies may work better than others. Insurers facing the cross-currents of ongoing new issues, renewal premiums, free looks, and policy surrender activity very quickly realize the futility of attempting to match up hedge purchases with specific policies or blocks of policies (a process called "emulation"). A "macro" hedging approach that manages asset and liability positions in aggregate can considerably ease the hedging effort required while increasing the trade latitude available to the hedge manager. "Delta" hedging, which equates the overall sensitivity of assets and associated liabilities to changes in the S&P 500 Index, is one common example of a macro hedging approach.

Hedge Mania

Some indexed-product writers become obsessive about hedge perfection. While the pursuit of watertight hedges is laudable, hedgers need to adopt a reasonable and consistent perspective on total company risk exposures. It makes little sense to button up S&P 500 Index exposure on an indexed product while neglecting to measure the company's exposure in, say, its sister SPDA product line. This is especially so because the forces affecting the equity markets will also be at play in the debt markets, moving interest rates that control traditional product economics. Writers will want to understand and measure the interrelationships among its various product lines and ensure that its overall hedge position properly constitutes a measured and thoughtful response to *all* risks the company faces.

The Volatility Frown

About 20% of indexed policies being sold include some sort of cap limiting the amount of index-based interest credits. In hedging, caps are usually handled through the simultaneous sale of an out-of-the-money call option. The combination of this sold option and a near-the-money purchased call option (termed a "bull call spread") creates the desired hedging effect. The price of the sold call relies on the underlying assumption of marketplace "implied" volatility, which can materially differ (in either direction) from volatility near the money. The curve, which depicts implied volatilities as a function of strike levels, is called the volatility "smile" or "skew." Failure to properly recognize this source of risk can result in seriously overstated profit expectations, because product pricing will implicitly rely on the sold call as a supplier of revenue.

Policyholder Misbehavior

The presence of equity-market elements in indexed products can create new and unfamiliar patterns of policyholder behavior. Policyholder expectations incorporate oft-told adages about equities' ability to outperform over various holding periods. As such, new approaches to understanding surrender activity become necessary. In making these analyses, it is convenient to categorize policyholder behavior into two primary modes:

- Naïve mode: Buy as prices increase; sell as prices decrease.
- Savvy mode: Sell as prices increase; buy as prices decrease.

For example, naïve policyholders prematurely surrender their contracts because of index-based underper-formance and resulting poor policy returns. Such underperformance is typically accompanied by elevated levels of market interest rates, constituting an additional incentive to depart. Most insurers are familiar with the psychology underlying this decision-making mode.

In contrast, consider savvy policyholders. They know that markets go down as well as up, and they believe they are able to time such movements. When advancing equity markets cause policy returns to outperform expectations, they may be induced to "lock in" gains in order to redeploy them elsewhere. While not all indexed product designs can be parsed this way, the savvy *insurer* will process the inducements of its particular product design against both the motivations of its distribution force and the governing dynamics of the capital markets.

Jay Glacy, ASA, is Senior Consulting Actuary at Ernst & Young LLP in Hartford, Connecticut.

UNDERWRITERS' CORNER

Genetic Information: Is It the Same or Different from Other Medical Information?

Editor's Note: *This article originally appeared in "The Back Page" section of the November/December 1997 issue of* Medical Resource, *Volume 9, Issue Number 6 and is reprinted with permission from Lincoln National Reinsurance.*

Submitted by: *Richard L. Bergstrom*

By Donald C. Chambers, M.D.

Question(s)

Do you think that genetic information is different, and if so, should insurers handle it differently from other medical information?

Answer(s)

Assuming that you are referring specifically to inherited DNA-based test information predictive of future disease, I have no doubt that this sort of genetic information is far more sensitive than most other medical information. I say "most" because AIDS—and perhaps drug and alcohol addiction and mental illness information—are equally sensitive. My beliefs with respect to the second part of your question are less certain.

The political insight editorial, "Genetic Testing Takes Center Stage," in the August issue of *Best's Review* quoted an ACLI spokesperson as saying that "our view is that genetic information is just like a routine medical test." The ACLI has consistently maintained that genetic information is no different than other medical information. They frequently make the case that all medical information is in some way genetic; thus it's impossible to make a distinction between medical information based on genetic characteristics.

In a recently published American Cancer Society publication, *Cancer and Genetics*, the case is made in chapter one that genetic information does differ from other medical information. The following reasons are cited. DNA information is:

- *Personal*. What could be more individual than one's DNA?
- *Predictive*. Unlike most medical tests, genetic tests give healthy people information about potential future risk—an eerie and possibly scary prospect.
- *Powerful*. The information has the power to change the course of lives, plans, and behaviors.
- *Private*. It's still not certain how, and from whom, to shield genetic information. Who will have access to these records? Employers? Insurance carriers? Potential marital partners?
- *Pedigree-Sensitive*. The information affects not just your patients, but their relatives. What is your obligation to them?
- *Permanent*. Until gene therapy can make a lasting change in one's genome, the results are here to stay.
- *Prejudicial*. Even the whiff of potential disease could create discrimination or stigma.

Those who choose to make no distinctions between genetic information and other medical information may regard the above as contrived, but this list collectively does a good job of expressing why I, and the majority of people, do in fact believe that genetic information is especially sensitive and thus is different.

To distinguish genetic test information (again, inherited DNA-based test information predictive of future disease) from most other medical information has seemed helpful to me for practical reasons alone. Today a vast majority of the public would almost certainly agree that information about a genetic mutation that is likely to lead to future life-threatening disease, and that has been inherited by someone from their mother and/or father—a mutation that brothers, sisters, sons, and daughters may also possess—is not "just like" blood pressure or cholesterol. If one believes that "perception is reality," then to argue that genetic information is like other medical information seems futile.

Having said that, there is rationale and value in distinguishing genetic-test information from most other medical information, and respecting genetic information for its high degree of sensitivity, does it necessarily follow that one must therefore adopt special infor-mation-handling practices to safeguard genetic privacy? The fact that insurers have done this for HIV data would suggest that this can and should be done. When one begins to carve out subsets of medical information for special handling, however, it's obviously hard to know where to stop. I've slowly come around to thinking—along with many others—that it makes no sense to adopt special information-handling practices for a myriad of medical information categories. A single set of sound handling practices should be capable of protecting all personal information, be that information highly sensitive in nature, such as genetic-test information, or routine, such as total serum cholesterol.

So, is genetic test information different? Should it be handled differently? I would say that the appropriate way for insurers to respond to those questions is to say, "Yes, genetic-test information is different and is not like most other medical information; but the fact is that the insurers treat all personal information, medical and otherwise, in a respectful and highly confidential manner. Insurers have always done an outstanding job of protecting personal information, and we are committed to doing an equally good job in the future, whether we are dealing with genetic or any other type of personal information."

For more information, contact:
Donald C. Chambers, M.D., Senior Vice President and Chief Medical Director, Lincoln National Corp., Fort Wayne, Indiana.
Phone: 219–455–3922
Fax: 219–455–6650
E-Mail: dcchambers@lnc.com

Ten Years Ago....

by Deborah Sloan

The December 1987 *Product Development News* featured the following articles:

Tax Notes
by John J. Palmer

This article described some proposals that were not included in the tax bills that year.

1. ***The Stark-Gradison Proposal***: Revised Distribution Rules for Life Insurance Contracts. This proposed bill would have applied annuity-type distribution rules to life insurance contracts.
2. ***GAO Proposals***. The General Accounting Office had two proposals that would have changed taxation for single-premium sales.
3. ***The NALU Proposal***: A Revised Definition of Life Insurance. The proposal was to have changed the definition of life insurance by adding a third test to 7702.

Zero Cash Value Whole Life

The content of this article was an exhibit taken from a draft Model Bill for Policies Without Nonforfeiture Benefits. The exhibit discussed coverages that offer permanent protection but no cash values. In some cases there would also be no paid up or extended term. These types of products have been available in Canada. Listed in the exhibit were: potential benefits to consumers, benefits to insurance companies, and some counter arguments to criticism.

Macro Pricing
by Douglas C. Doll

Summarized were concepts from a series of seminars at which Shane Chalke was a presenter. Macro pricing means projecting the total results of a product or line of business instead of merely looking at per-unit profitability. It allows for the development of several versions of a product corresponding to different amounts of production in order to achieve a total profit objective.

Risk Adjusted Profit
by Douglas C. Doll

This also was a summary from the fall seminar at which Shane Chalke presented this approach. It measures profits on interest-sensitive life products, with adjustment for the C-3 risk. The article provided a formula for determining the Risk Adjusted Value. These values are useful for choosing among various interest crediting and investment strategies by turning the results of multiple scenarios into a single number.

Actuarial Aspects of Overage Insurance
by A. Gordon Jardin

This article, reprinted from the July-September 1987 issue of *On the Risk*, addressed the fact that there had been a shift and would continue to be a shift toward sales to the older-age market because the major population growth was expected to be at those ages. The author discussed certain pricing assumptions. Mortality was the major focus with concern over the lack of good data at the older ages. He addressed the following pressures to which the underwriter would be exposed when approaching this older age market.

1. ***Agency***. Pressures to ignore some of the minor dysfunctions of older persons to ensure a high percentage of standard issues.
2. ***Underwriting Costs***. Underwriting older ages is more expensive and pressure was anticipated to reduce costs.
3. ***Competition***. As more companies sought out this market, the author anticipated pressure to use aggressive mortality assumptions. He closed with the point that a 10% error in mortality at age 65 exceeds a 100% error at age 35. (See the article on page 11 describing the upcoming seminar on Emerging Markets for the New Senior Citizens.)

The Product Development Process—Bringing New Products to Market Quickly and Efficiently

This article presented excerpts from a session at the Montreal Society of Actuaries Meeting. It addressed four distinct areas:

1. ***Identifying Product Needs***. Part of this process is deciding a strategy of either being a market leader or a market follower. The key is to monitor the marketplace and to have a clear definition of the buyer and seller of the product.
2. ***The Pricing Process***. Discussed was the process of determining assumptions for pricing, including the company profit objectives and relative competitive posture of the company. The speakers also acknowledged that no matter how good a job has been done in laying out the product design, changes are inevitable.
3. ***Systems***. The first model discussed is to make products conform to systems. This is seldom possible. The other is to give consideration to alternatives of who will do the administration of the product. Also suggested as critical to this process was having a model company within the operation. This model company would be an invaluable asset in testing system modifications and determining system capabilities.

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1997 Survey of Product Development Topics

At the 1997 SOA Annual Meeting in October, the Product Development Section conducted a survey of its members to gain insights into the issues the membership would like discussed at future meetings. Below are some of the suggestions:

- Development in Nonforfeiture and Valuation
- Nonforfeiture—What's the New Proposal All About? Debate?
- Basics of State Filing for Products
- Policy/Product Review from a State Regulation View
- *XXX*—Why Does the Academy Support This? Debate? Isn't the Valuation Actuary's Opinion Okay?
- Term/*XXX*/Reinsurance Solutions
- "Debate" on What Is Different in New York and Why … Pros and Cons
- Impact of Actuarial Standards of Practice on Pricing
- SEC Issues
- Section 7702
- Tax Reform Effects on Life and Annuities
- ALM and Life Insurance
- Lessons from International Products Ideas
  - Compensation/Distribution
  - Insight of Needs/Trends
- Mutual-Holding Company Process
- Product Development and Management—The Learning Cycle
- Integrating Product Development with Company Strategy
- Techniques for Developing the "Right" Products (helping the company work on the right projects or those likely to succeed)
- Product Development and IT—Process and Product Administration
- Dealing with Increasing Competition
- Impact of Change in Demographics on Insurance
- Financial Service Convergence
- Banks in Insurance
- Impact of Needs-Based Selling on Product Design
- Nondistribution Expenses in Pricing (Administration U/W, Over head)
- Effect of Lapse Rates on Life Insurance Mortality
- Lapse Supported Pricing, Implications, and Challenges—New Retirement Products
- Profit Goals (GAAP, PV Profit, ROI, etc.)
- Primer for Proactive Defense on Market Conduct Issues (what should you do today, before lawsuits begin?)
- Designing Products to Minimize Market Conduct Concerns
- Market Conduct from a Regulator's View
- Sales Illustrations and Disclosure
- Mortality Assumptions on Senior Products
- Genetic Testing
- Underwriting Update
- Underwriting Challenges and State Regulation/Concern with Internet Activity on Life Insurance
- Mortality—Preferred Categories—How to Define the Levels and Assumptions
- Emerging Compensation Changes—Specifically NY 4228
- Level Compensation
- Trail Commissions on Life Insurance (not annuities)
- Analysis of Relationship of Distribution System on Product Price
- How to Sell Alternative Compensation Method to Agents
- Distribution Methods of the Future
- Growth of Internet Use to Sell Insurance
- Lead Generation—How Are Applications Obtained, etc.
- Innovative Life Products
- Dealing with Estate Tax
- Survivorship Life
- Equity-Indexed Products
- Variable Products—Trends Emerging with Liberalized Expense Treatment
- Outside Funds in VA & VL
- Annuities versus Roth IRAs
- Variable Annuity versus Mutual Fund—Capital Gain Tax Impact
- Merits of VA Guaranteed Maturity Benefit versus EIA
- What Is Being Done in Annuity Asset Retention (Product, Marketing, Administration)
- Immediate Annuities—Who is doing what (product design review) and what are their sales volumes?
- Illustration Regulations for Annuities
- Trends in SPDAs
- Payout Annuity Product Trends (Indexed, Cashout, LTC Riders, etc.)
- Acceleration Riders
- Long-Term Care
- Critical Illness
- Changes in the DI Marketplace
- Trends in Group Life Insurance: GVUL, Group COLI, Portable Term

The survey respondents also indicated their preferences of topics by major subjects (Table 1 on page 9).

Please write, call, or e-mail any Product Development Section Council member or the editor of *Product Development News* with further ideas or suggestions on topics you would like to see presented at SOA functions.

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Product Development Section Survey
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TABLE 1
Respondents Preference of Topics

Subjects	High Interest (Weight = 2)	Medium Interest (Weight = 1)	Low Interest (Weight = 0)	Weighted Total
New/Emerging Products	50	12	1	112
Pricing/Profitability Methods	33	19	8	85
Distribution Channels/Compensation	28	27	8	83
Product Development Process/Issues	25	32	18	82
Nonforfeiture/Valuation	21	35	7	77
Market Conduct	18	35	13	71
Regulatory	16	36	7	68
Underwriting	15	30	18	60
International	7	17	37	31

1998 Hawaii Spring Meeting Schedule

The Product Development Section will be well represented at the Society of Actuaries' 1998 Spring Meeting in Hawaii. The meeting is scheduled to be held June 14–17. The following are summaries of the sessions planned.

June 15–17, 1998
Maui, Hawaii

Monday, June 15, 1998
10:00 a.m.–11:30 a.m.

6PD UP-TO-THE-MINUTE NEWS FLASH ON REGULATORY DEVELOPMENTS

Moderator: Donna Claire

This session provides the most current information on the status of those issues in the regulatory area that have an impact on product development. Professional involvement from the National Association of Insurance Commissioners and the American Academy of Actuaries are discussed along with other individual state developments of interest.

10:00 a.m.–11:30 a.m.

7PD MILLENNIUM UNDERWRITING

Moderator: Rick Bergstrom
Panel: Hank George
Mike Gaines

This session focuses on how life and disability risk assessment and management might be directed in the first decade of the 21st century. Specifically, the three panelists address:

- Designing and implementing a virtual insurance company using today's technology, expert systems, and outsourcing services
- Understanding the "insurability profile" concept and how it applies to the concepts of "fast, accurate, and cost-effective"
- How to determine and assess the real value of the tools needed to streamline and redesign the underwriting process in the next millennium.

1:00 p.m.–2:30 p.m.

18PD MARKET CONDUCT ISSUES FOR PRODUCT DEVELOPMENT ACTUARIES

Moderator: Mark Milton
Panelist: Rob Schwab

Market conduct is one of the most serious issues facing the life insurance industry today. How did we get to this point? And more importantly, what actions are companies taking to address these issues? The American Council of Life Insurance (ACLI) has been working to develop a market conduct oversight entity. The result of this effort is the establishment of the Insurance Marketplace Standards Association (IMSA).

1:00 p.m.–2:30 p.m.

20IF INSIDE THE MEDICAL INFORMATION BUREAU (MIB)

Moderator: John A. Luff
Panel: John Detwiler
John Avery
Stacy Gill

Representatives of MIB share with the audience the history of this 75-year-old institution, how it came into being, technological highlights over the years that have led to a very active and data-rich source of medical information, and the services (many of them little known to users!) MIB offers to clients and other industry groups. The role of the Center for Medico-Actuarial Statistics (CMAS) plays in compiling, digesting, and producing mortality and morbidity studies is also discussed.

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3:00 p.m.–4:30 p.m.

31IF INSURANCE COMPENSATION TRENDS AND OUTLOOK

Moderator: Joel Wolfe
Panel: Cary Lakenbach
Deanne Osgood

This session focuses on recent compensation developments and trends in the financial services industry. Specifically, panelists will address:

- Changes to New York compensation laws—overview, opportunities, challenges, and trends
  starting to appear
- Compensation patterns and trends emerging on insurance products sold through financial institutions other than insurance companies, and
- Pressures on the current systems from direct marketers—Internet and otherwise.

3:00 p.m.–4:30 p.m.

33OF CURRENT ISSUES IN SALES ILLUSTRATIONS

Moderator: Jack Branscomb
Panel: David Karo
W. Harold Phillips

The new NAIC regulations for sales illustrations are rapidly being implemented in most states. As actuaries become more familiar with these new requirements, various technical and operational challenges are now apparent. For those individuals serving as illustration actuary, developing an effective strategy for fulfilling these new responsibilities is crucial.

Tuesday, June 16, 1998

8:00 a.m.–9:30 a.m.

43D PREFERRED RISK PLANS: SHOULD WE HAVE THREE CLASSES OR SIX?

Moderator: Allen M. Klein
Panel: David Rains
Jimmy Atkins
Phil McHale
Jennifer Richards

Preferred products continue to evolve. The number of underwriting classes on a product may be two or eight or anywhere in between. Among the multiple risk classes offered on a product, many of them are for the "preferred" risks.

How many preferred risk classes are appropriate for today's products? Should you offer three, six, or some other number of preferred risk classes? Does the number of risk classes appropriate for your product differ because of your market, the size of your company or the culture of your company? Does it really matter how many risk classes you offer? What are the pricing, underwriting and marketing implications of the number of classes chosen and how well is the selection process for these classes implemented?

8:00 a.m.–9:30 a.m.

44IF COLI—TRENDS AND OUTLOOK

Moderator: Tim Millwood
Panel: Ian Glew
Christopher Parker
Gary Thomas

This session focuses on current trends in the marketplace (e.g., product, marketing, COLI concepts, underwriting, systems), what to expect in the future, and how a carrier should position itself to be a dominant player in the 21st century.

10:00 a.m.–11:30 p.m.

59PD EQUITY-INDEXED PRODUCTS— NOW THAT YOU HAVE THEM, WHAT ARE YOU GOING TO DO WITH THEM?

Moderator: J. Lynn Peabody
Panel: Ann Bryant
Jean Liebmann

More and more companies are bringing new equity-indexed annuity and life products to the market. Sales of these equity-indexed products continue to prosper. With this surge in growth, many companies are facing the challenge of successfully managing these products to preserve their competitive advantage. Some of the critical ongoing product management issues include:

- asset and liability management
- reserve development
- cash flow projections
- reinsurance
- rate resets
- option selection
- market conduct.

Wednesday, June 17, 1998

8:00 a.m.–9:30 a.m.

71PD EQUITY INDEXED ANNUITIES: REGULATORY ISSUES

Moderator: Noel Abkemeier
Panel: Donna Claire
Errol Cramer

The equity-indexed annuities market is growing rapidly. Several regulations continue to be developed, including those addressing distribution, marketing disclosure, and reporting and valuation issues.

8:00 a.m.–9:30 a.m.

72PD PREFERRED UNDERWRITING SURVEY

Moderator: Mary Bahna-Nolan
Panel: Jess Mast
David Wylde

Members of the Preferred Underwriting Products Practices Task Force present the results of their survey

- Underwriting criteria (e.g., laboratory test limits)
- Mortality expectations.

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10:00 a.m.–11:30 a.m.
82PD EVALUATING LIFE INSURANCE COMPANIES FROM THE OUTSIDE
Moderator: John Schreiner
Panel: Deborah Gero
David Kimmel
James Overholt

As we enter a new age in the financial services industry, life insurers are facing many new challenges as well as some new opportunities. To prosper, and in fact maybe even survive, many life insurance companies need to better understand their environment. Since competitive analysis is a key component of product development, it is critical to evaluate other insurance companies with an outside perspective. This session identifies ways to do that.

10:00 a.m.–11:30 a.m.
89OF TERM WARS
Moderator: Tim Pfeifer

Term wars are escalating, and no relief appears in sight! Direct writing companies as well as reinsurers are locked in an ultra-competitive struggle to out-maneuver each other for increased market share. With the pending introduction of *Guideline XXX* regulations and increasing market presence of nontraditional distribution approaches, term product price and feature changes are likely to continue at a rapid pace.

1:00 p.m. –2:30 p.m.
95PD VARIABLE ANNUITY PRODUCT DESIGN
Moderator: Deanne Osgood
Panel: Jeff Dellinger
Lilia Sham
Terry Simpson

In a continuing bullish stock market, variable annuities have sustained their popularity. However, changes in state and tax regulation as well as the search for new market opportunities have an impact on product design. In this session, the presenters discuss the following topics:

- The expected impact of recent changes in tax legislation on product design
- The expected impact on compensation patterns and product design changes to NY Regulation 4228 allowing assets-based commissions
- Variable immediate annuities as a new equity investment opportunity.

1:00 p.m.–2:30 p.m.
97PD EXPENSES AND PRICING
Speaker: Sam Gutterman
Moderator: Katherine Anderson

The expense assumption used in the pricing process can provide the framework to enable an insurance company to achieve a desirable level of profitability, competitiveness, and cost structure. The ability to both control expenses and reflect them appropriately in pricing is necessary for an insurance company's short-term and long-term success. Mr. Gutterman presents and discusses his award-winning paper.

Emerging Markets for the New Senior Citizen

The Product Development and Nontraditional Marketing Sections will co-sponsor a seminar designed to help actuaries and other professionals learn more about needs, desires, demographics, and influences baby boomers and their parents have in today's world. Attendees will find out how insurance companies and service providers might want to position themselves in the coming millennium to take advantage of changes in the health care system, tax reform, technological advances, and underwriting protocols. Topics to be addressed will include:

- An overview of market demographics
- Implications of recent tax law changes
- Mortality trends and underwriting issues
- Potential changes being discussed relative to valuation and nonforfeiture regulations
- Distribution issues using state-of-the-art technologies
- Discussions of the plethora of product-specific issues.

The day-and-a-half meeting will be held in Charleston, South Carolina beginning Monday, November 16, with a pre-seminar reception the night before. For more information, contact Sheri Abel in the Continuing Education Department at 847-706-3536.

Regulation XXX—A Status Report

by Kevin P. Larsen

Four score and seven months ago, or thereabouts, the beginnings of the Valuation of Life Insurance Policies Model Regulation (then known as *Guideline XXX*) were being formed. After a great deal of debate on its merits, needs, intent, and effect, the National Association of Insurance Commissioners adopted the model regulation in 1995.

However, since that time, the progress of getting the regulation adopted by the states has gone through many swings in momentum. At times, it has appeared to be heading for imminent adoption. At others, it has appeared to be dead. But throughout, the debate has continued, and the uncertainty about its adoption nationwide has helped fuel a very active term-insurance market.

This article is not intended to add to that debate. Rather, it provides the reader with the most up-to-date status of the adoption of *Regulation XXX*. Each state insurance department was contacted between November 5–19, 1997 with subsequent follow-up discussions through March 1998. The information in this article reflects both where a state currently stands on the measure and its anticipated activity on the regulation in 1998.

What You May Already Know

The only state where *XXX* is currently in effect is New York, which has had Regulation 147 in place since 1994. Seven other states (see Table 1 on pages 13 and 14 for current status in each state) have adopted *XXX* with a delayed implementation, known as the "Illinois Rule," or the "51% Rule." This rule states that the regulation will take effect on the January 1 of the year following the date when 51% of the U.S. population is in states that have adopted *XXX*.

West Virginia has adopted *XXX* to be effective January 1, 1998. However, it now wishes to delay the implementation to the 51% rule. That will require legislation to give the commissioner the authority to modify the effective date, and the state is still seeking a sponsor for that legislation.

Wisconsin has adopted the regulation, and it will take effect January 1, 1999.

What You May Not Have Heard

There has been some activity recently in several states. On November 3, 1997, Kansas adopted *XXX* with the 51% rule.

Most notably, Texas is proposing adoption of the regulation with an effective date of December 31, 1998, to apply on all business written after that date. The measure has been introduced into the register. A hearing has been scheduled for April 22, 1998, after which a final ruling will be made.

Extra-Territoriality

A common question that has been raised is whether *XXX* applies extra-territorially. According to most regulators I have questioned, the Standard Valuation Law requires that a company licensed in a state must hold reserves required by that state on all its business, not just for business written on residents of that state.

To date, for many companies, New York's Regulation 147 has affected only their New York business. This is because they have a separate New York affiliate. If *XXX* becomes effective in large states where these companies write business (and do not have separate affiliates), they in fact will have to comply with *XXX* nationwide.

How the Race Is Shaping Up

Counting the current states that have adopted *XXX* (regardless of effective date), 21.9% of the U.S. population is covered. Adding Texas and two other states planning to introduce the measure (Minnesota and New Jersey) brings the total to 33.6%. Another five states (5.8%) are studying *XXX* or have a fair possibility of introducing it in 1998. And 11 states (16%) have said they will review their position on *XXX* if 51% is achieved by other states.

Seven states equaling 23.7% are unlikely to adopt *XXX*. Two of these, California and Connecticut, accept *XXX* reserving, but also accept other methods, therefore, they do not count toward the 51%. However, California might reconsider adopting *XXX*. It is not a current priority, but it has not been ruled out.

1998—An Important Year

Yes, we have thought this before, but 1998 looks like it will be the critical year for deciding the fate of *XXX*. With the right circumstances, it is possible to reach 51%. And some groups are proposing modifications that would make *XXX* more likely to pass in some states.

While we won't be electing the next U.S. president, the coming year does provide an interesting race to watch. Stay tuned …

Kevin P. Larsen, ASA, is Associate Director, Market Analysis & Consulting Services, at Security Life Reinsurance, Denver, Colorado.

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TABLE 1

State	Status of *XXX*	Effective Date	% of U.S. Population	Comments
Alabama	Unlikely to adopt		1.62%	
Alaska	No planned activity		0.22	
Arizona	No planned activity		1.47	
Arkansas	May review if 51% achieved		0.95	
California	Accepts *XXX*, but does not count for 51% rule		11.97	Ruling 96–9 allows alternatives. Has not ruled out revisiting *XXX*
Colorado	No planned activity		1.32	Would take at least 60 days
Connecticut	Accepts *XXX*, but does not count for 51% rule		1.32	Similar allowances as California
District of Columbia	No planned activity		0.24	
Delaware	No planned activity		0.27	
Florida	Unlikely to adopt		5.20	Would require repeal of current regulation. Currently requires segmented approach during first level premium period
Georgia	No planned activity		2.60	
Hawaii	Currently studying		0.45	
Idaho	No planned activity		0.40	
Illinois	Adopted	51% rule	4.60	
Indiana	No planned activity		2.23	
Iowa	May review if 51% achieved		1.12	Will consider if neighboring states adopt it
Kansas	Adopted	51% rule	1.00	Recently adopted: 11/3/97
Kentucky	No planned activity		1.48	
Louisiana	May review if 51% achieved		1.70	
Maine	Adopted	51% rule	0.49	
Maryland	Adopted	51% rule	1.92	
Massachusetts	May introduce in 1998		2.42	
Michigan	No planned activity		3.74	
Minnesota	Introducing in 1998		1.76	
Mississippi	No planned activity		1.03	
Missouri	May review if 51% achieved		2.06	
Montana	May review if 51% achieved		0.32	
Nebraska	No planned activity		0.63	
Nevada	Currently studying		0.48	On agenda to decide in 1998
New Hampshire	Currently studying		0.45	
New Jersey	Introducing in 1998		3.11	
New Mexico	Adopted	51% rule	0.61	
New York	Adopted	1/1/94	7.23	
North Carolina	Adopted	51% rule	2.67	
North Dakota	No planned activity		0.26	
Ohio	May review if 51% achieved		4.36	
Oklahoma	Unlikely to adopt		1.26	
Oregon	May review if 51% achieved		1.14	
Pennsylvania	No planned activity		4.78	
Rhode Island	Unlikely to adopt		0.40	

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TABLE 1

State	Status of *XXX*	Effective Date	% of U.S. Population	Comments
South Carolina	May review if 51% achieved		1.40	
South Dakota	No planned activity		0.28	
Tennessee	Unlikely to adopt		1.96	
Texas	Introducing in 1998	12/31/98	6.83	Currently has 3–309(b). Would allow gross premium valuation during transition
Utah	Adopted	51% rule	0.69	
Vermont	May review if 51% achieved		0.23	
Virginia	May review if 51% achieved		2.49	
Washington	May introduce in 1998		1.96	
West Virginia	Adopted	51% rule	0.72	Actually effective 1/1/98 but planning to modify to 51% rule
Wisconsin	Adopted	1/99	1.97	
Wyoming	May review if 51% achieved		0.18	
Currently adopted (10—New York, Illinois, Kansas, Maine, Maryland, New Mexico, North Carolina, Utah, Wisconsin, West Virginia)			21.9	Currently adopted
Likely to be enacted by 1/1/99 (3—Texas, Minnesota, New Jersey)			11.7	Inclined positively
Might introduce regulation in 1998 (2—Massachusetts, Washington)			4.4	
Accept other methods (2—California, Connecticut)			13.3	Inclined negatively
Unlikely to adopt (5—Alabama, Florida, Oklahoma, Rhode Island, Tennessee)			10.4	
May review if 51% achieved by others (11)			16.0	Neutral
Currently studying or have no activity (18)			22.3	

Call for Papers: "Risks in Investment Accumulation Products of Financial Institutions"

The creation and issuing of new forms of contract structure by financial institutions, containing various guarantees relating to the investment performance of some blocks of assets, raise many new challenges for management. The design of these new structures, which include "variable" and "indexed" products, was intended to insulate financial institutions from most market risks. However, embedded guarantees and product features may engender some form of residual risk. The guarantees provided are linked to interest rate returns and/or equity returns. The techniques for managing interest- sensitive liabilities require expansion to provide the basis for stronger management of these new complex products.

In light of the dramatic need to more thoroughly understand the risks in investment accumulation products, the Actuarial Foundation and Nationwide Financial Services are jointly sponsoring a call for papers. Submissions will be reviewed by a panel chaired by Irwin T. Vanderhoof, The Stern School of Business, New York University. The Actuarial Foundation intends to present the accepted papers at a public symposium and to publish a symposium proceedings.

The deadline for submission of papers is September 1, 1998. The detailed call for papers can be downloaded from the Research section of The Foundation's web site at (www.soa.org/foundation), or contact Joyce Lewis at the Actuarial Foundation for more information, phone 847–706–3535, fax 847–706–3599, e-mail, jlewis@soa.org.

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4. Reinsurance arrangements. Reinsurers can be of great assistance in bringing out products with which a company has little or no prior experience.

Also, reinsurance costs have a greater impact on achieving profit objectives and coordination with reinsurers early in the pricing process can be critical.

Deborah Sloan, FSA, is Vice President and Actuary at United Heritage Mutual Life in Nampa, Idaho and a member of the Individual Life Insurance and Annuity Product Development Section Council.

Producing Plans for the New Year!

The *Product Development Section* Council
Standing (left to right): Phil Cernanec, Mike McMahon, Larry Stern, Rick Bergstrom, Mark Milton; Seated (left to right): Ed Turner, Kathy Anderson, John Fenton, Deborah Sloan