Seasoned Expert Shares Observations on Pricing and Selecting Mortality Risk

Many life insurers have adopted technology as the path to more efficient and effective risk selection. But companies can also benefit from improving how they collect and share data within their organizations and within the industry.

Dave Dorans, Vice President, Mortality Solutions, discussed ongoing developments in underwriting, markets and regulation with Barbara Lautzenheiser, Principal of Lautzenheiser & Associates, a life insurance consulting firm.

Barbara is a former president of the Society of Actuaries (SOA), past president of the American Academy of Actuaries and a charter member of the Interim Actuarial Standards Board. She has worked extensively with the National Association of Insurance Commissioners’ committees on insurance issues and trends, including risk classification, underwriting, product development and solvency. She is a graduate of Nebraska Wesleyan University in Lincoln, Nebraska.

Dave Dorans: Life insurers can always benefit from a better understanding of mortality. Investment in underwriting technology and techniques has been a growing priority. What do you see as promising developments along these lines?

Barbara Lautzenheiser: Recent technology developments – use of pharmacy data, electronic application processes, tele-interviewing and more – have been impressive but I think we as an industry should be paying more attention to how we obtain that data in the first place. While companies have added technology to their front-end processes, the application itself is largely unchanged over the years. The application is an opportunity for the industry to rethink the information for which we ask.

Another way companies could benefit is to make better use of existing studies in developing new questions. For example, there is an adage that exercise improves your good cholesterol and reduces your bad cholesterol. A while back, a study out of Texas found that this is true for men – but not for women. The good cholesterol either stays level or goes down when women exercise. So it’s important to get the right kind of studies – and develop drill-down interview questions around such criteria as gender differences.

DD: We’re often surprised by the disparity in mortality results among companies writing similar products, in similar markets and with similar underwriting criteria. Have you observed this as you have worked with different companies?

BL: The disparity doesn’t really surprise me. I think it may be a consequence of companies going it alone in developing criteria and, perhaps, looking to underwriting for a competitive advantage. But actuarial science and pricing is based upon statistics and the law of large numbers. Companies would benefit by pooling information and working together to develop underwriting criteria because then they could get the volume of data needed to come up with probabilities with greater credibility. When companies go it alone, they may obtain less credible data for the specific criteria. Perhaps this is what you are seeing.
Pricing and Underwriting

**DD:** We’ve talked about the value of good data capture, which implies a tight connection between underwriting and actuarial. Do you find this to be the case in companies that you work with?

**BL:** Unfortunately, I think cross-departmental communication has actually decreased over the years. In the past insurance companies were more hierarchical, with someone having oversight over multiple and frequently related departments and, hence, in a position to promote cross-functional collaboration.

When I was in charge of both underwriting and actuarial at companies, I held regular meetings with department representatives, and we paid attention to what was going on from both an underwriting as well as an actuarial standpoint. This collaboration provided an opportunity for creativity and identification of new or improved underwriting criteria.

In today’s flatter organizations you have more functional autonomy but I think there is less communication between the functional areas – and in many cases less sharing of information. This is a missed opportunity. You could end up with pricing that may not fully benefit from the underwriting. You may not be charging adequately for the risk or you may be missing opportunities to improve underwriting criteria and pricing.

**DD:** Multiple preferred risk classes are not as extreme as they were a few years ago but we are still dividing preferred population into four or five classes. Is the industry really up to the challenge of making that level of differentiation?

**BL:** Unless a company has credible data on which to study the various criteria, I don’t see how they can make distinctions with improved predictability. I know the SOA is working on this but it’s difficult because the industry does not have standard criteria for preferred risk classes; many companies may be doing their preferred underwriting differently for competitive reasons. If the industry was to agree to following standards for preferred risk criteria, companies and the SOA would be better able to have credible experience with which to benchmark. And if they benchmark more effectively, they could then be better able to have more predictability for pricing assumptions for those classes.

**DD:** That’s a great point. For example, pricing actuaries often assume continued mortality improvement in the insured population. What’s your view on that?

**BL:** To be fair, it’s a daunting challenge for the pricing actuary who is trying to make a decision on what’s going to happen 10-20-30 years out. The SOA’s 2000-04 Individual Payout Annuity Experience Report found that the mortality improvement was not at the same levels as previously seen.

Mortality improvement is driven not only by changes in medicine but also in standards of living. “Survival of the fittest” isn’t as much in play today as it was in the past. Fifty years ago a lot of people died because they didn’t have air conditioning and the summer heat overcame them, or they didn’t have sufficient heat in the house and could not survive the winter. While good housing isn’t universal it’s certainly more common today. So innate differences in fitness as a mortality driver is going away at most ages. This means that unless we continue to invest money to develop major medical breakthroughs like a cure for cancer or a quick recovery procedure for heart attacks, mortality improvement building on past advances in medicine and standards of living will eventually flatten out.

Remarkably, “survival of the fittest” is still going strong at very high ages on annuity mortality experience. This is the biggest risk at the moment because current annuitants could live a lot longer than people have in the past. One study found that having two or three major diseases at extreme older age does not make a lot of difference in life expectancy. This is just a group of people with better constitutions who simply live longer than others do.
Older Age Sales: Risks and Opportunities

DD: Another side of mortality improvement is the growth in older age consumers. Some life products being developed today focus on consumers who are 75-plus years of age. What are your thoughts on the opportunities and risks in serving the older age market?

BL: Companies do not yet have a full understanding of older age mortality. In the past the SOA utilized Social Security mortality data at higher ages because the industry – hence the SOA since they utilize industry data – did not have access to credible data at those ages. Experience data on inforce policies is now available on these older ages but unless companies come up with additional underwriting criteria and questions about such things as mobility, eating habits and cognitive function, they won’t have the best data for differentiating between risks on newly issued 75-year olds.

And mortality is just one part of the challenge for insurance at the older ages. If companies are pricing products for older age consumers at assumed lapse rates close to those assumed for younger policyholders then I suspect that lapse rates won’t be valid. Insurers could end up with the same problems found in long term care insurance (LTC). LTC was priced with “normal” lapses and in many companies the pricing problems had to do with higher than expected persistency. Companies did not anticipate that lapses were going to be lower. We should expect life insurance lapse rates will also be low with the elderly because once they get their contract they won’t lapse it, especially if they have to take a physical for replacement.

DD: Consumers often need LTC coverage, but many companies are leaving the LTC market. Could combination LTC/Annuity and LTC/Life insurance products serve consumer needs going forward?

BL: I know companies are trying to merge these but I am seeing more companies leaving the LTC market. However, I believe there is a question around needs for living benefits. What types of expenses are older age consumers looking to cover? Do they need payment for nursing care or do they need payment for everyday living expenses? My own experience with a 100 year-old mother-in-law, a 98 year-old mother and a 92 year-old father before they passed away was that they needed money for things like yard care, house cleaning, getting groceries and doing laundry, not for health-based LTC. So a combination annuity/life insurance contract to me makes more sense than a combination LTC/life contract because it automatically pays that annuity benefit to take care of any expenses whether health related or not.

Regulation: Defending Risk-Based Pricing

DD: Recent regulations have curtailed insurers’ use of foreign travel or residency for underwriting because companies did not actuarially support their positions. Any views on where this might be moving?

BL: Well, it’s very difficult to get actuarial proof for every country, but in countries where unrest is occurring, these risks are real and companies need to manage those risks. Where the probability of death is so high that it approaches or could suddenly approach the benefit, the law of large numbers does not work. And then there is the hypothetical case where someone buys a policy with a required 30-day free look period then leaves on a trip to a restive part of the world. When they come back home two weeks later they can turn their policy back in; they just got free life insurance for their trip. Were they to unfortunately be killed, either the policyholders or the stockholders would have to pay for the loss. Insurance companies don’t cover suicide during the early policy years for the same reason.

You can’t ignore policy risks in your pricing. You can’t write a policy because you can’t price a policy on somebody just before they go to an unstable part of the world. It’s a major anti-selection risk. Without credible statistical data companies could remain vulnerable to abuses of this kind unless we explain that such risks are not capable of being credibly priced on a basis that’s equitable to other policyholders or to stockholders.
**DD:** Life underwriting is at its basis a discriminating process, but lately there have been efforts in Europe to roll back “discrimination” in the pricing and provision of insurance. Could there be spillover effects from these debates that affect the life side of the business?

**BL:** Anything is possible. In the past we saw regulators and legislative bodies in several jurisdictions question the ideas of actuarial equity and risk classification. However, by explaining that risk classification in pricing is cost-based, i.e., equitable pricing, we were able to maintain risk classification at the Federal level and in nearly all states. I think the threat is lower for underwriting life insurance than other insurance products because life insurance has an “unselfish” benefit. Generally, most advocates for removal of risk classification lobby for what costs less money for them. If insurance prices don’t reflect one person’s risks then others must pay more to compensate.

One thing that could affect us again is the rollback of risk-based pricing in the EU, such as the ban on gender-based discrimination last December. Companies have accepted this instead of fighting it. We fought the gender-based pricing (unisex) issue here in the US. We had lots of gender-based statistics to show that what we really had was risk-based, cost-based, equity-based pricing. And it looks like the EU isn’t finished; an age discrimination issue is coming up this summer. If they eliminate age I don’t know how they stop that from moving over into major diseases and then they can do very little individual life underwriting, if any at all.

**DD:** Most of these initiatives seem tied to the idea of insurance as a right – or if not a right, then a good that should be available to all for the same price. Why doesn’t this work?

**BL:** It does work in social, non-voluntary insurance – where everyone must participate and must pay. But it does not work in voluntary insurance markets such as ours, where people can choose or not choose to buy. We’re not discriminating capriciously – we’re pricing to the person’s risk – we’re pricing to the person’s cost. Critics say “But the pricing is not equal.” But this is not about equality – it’s a concept of equity – of charging an equitable cost premium that matches the risks being covered. If in a voluntary market system everyone could pay the same price for life insurance, almost all consumers would have to pay dramatically more for coverage because people would only buy life insurance when they knew they needed it. The only reason that insurance works is that you buy it in advance, and everybody helps prefund it by pooling risk. The premium that you pay is one that matches your risk category, your cost category. It’s how insurers can support policies to consumers at the best possible prices.