

A **New** Response

Hybrid life insurance/long-term care product sales are rising, but the industry must pay attention to pricing and risk mitigation techniques.

by Tony Laudato

Recent studies show that long-term care costs continue to rise, with the average annual cost of a private room in a nursing home topping \$90,000, according to a MetLife market survey of long-term care costs. While costs are escalating, the National Association of Insurance Commissioners reports that only a small percentage of the population has either individual- or group-based long-term care insurance coverage.

Those who have not purchased coverage are knowingly, or unknowingly, self-funding any potential long-term care-related costs in the future. There is a 68% probability that an individual over age 65 will become cognitively impaired or unable to complete at least two “activities of daily living” (including dressing, bathing, or eating) over his or her lifetime, according to a Morningstar report.

In looking at current long-term care costs and average-stay statistics in nursing homes, the Centers for Disease Control and Prevention report the average cost would be approximately \$208,000 without any adjustments for inflation. Will the uninsured population be able to bear this cost without some type of insurance protection?

Until recently, the only solution for clients has been stand-alone long-term care protection sold on

either an individual or group basis. Despite the growing consumer need for this type of protection, sales of stand-alone long-term policies have been in significant decline since the mid-2000s. A number of factors are impacting this market, including necessary increases to product pricing, a negative market perception due to rate-setting practices and its “use it or lose it” product design.

The industry responded to this reality by offering life insurance/long-term care hybrid products. There are two major categories of products: chronic illness acceleration riders and long-term care insurance-linked benefit riders. Each of these products accelerates the insurance policy face amount for qualified LTC and chronic illness needs while the LTCI-linked benefit riders go one step further and provide additional LTC coverage beyond the acceleration of the policy face amount.

All of this is done on a tax-advantaged basis to the policyholder, assuming the basic regulatory requirements are met.

In 2013, these products accounted for more than 98,000 policies representing 13% of all new individual life insurance premium—a growth of 12% over the previous year. The majority of this growth is from the chronic illness acceleration riders attached to universal life products. Given recent sales results, these products are having a significant impact on the insurance industry. Pricing and risk mitigation techniques, however, are still in the developmental stage.

Pricing Assumptions

There are three major assumptions

Key Points

► **The Big Picture:** Despite the growing consumer need for protection, sales of stand-alone long-term care policies have been in significant decline since the mid-2000s.

► **What Happened Next:** The industry responded to this reality by offering two classes of life insurance/long-term care hybrid products.

► **The Upshot:** Given recent sales results, these products are having a significant impact on the insurance industry.

that need to be considered prior to modeling work: mortality, morbidity and lapse. Each of these will play a critical role in the expected development of claims for the acceleration of the face amount.

A number of considerations will drive the ultimate level of these assumptions: underwriting, product design and marketing, the size of the policy, any overlap with other products in the portfolio and the target market for the product.

Mortality Assumptions

In order to accurately reflect the mortality profile of the insured population, three distinct assumptions must be made: total mortality, active life mortality and disabled life mortality. Each of these mortality assumptions will need to reflect the considerations already noted.

Morbidity Assumptions

The morbidity profile will be based on the aggregation of the incidence rates, termination rates, underwriting selection factors and salvage factors (how much of the maximum daily benefit that people are using).

(Continued on page 28)

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Key Questions Concerning Product/Rider Design

A number of key questions must be answered to help determine final pricing assumptions based on the design of the product/rider.

Key Mortality Questions

Underwriting

- Are there additional underwriting requirements (cognitive testing, prescription drug checks, motor vehicle reports, etc.) and questions on the application due to the addition of the rider?
- Are these requirements added at younger issue ages?
- What impact does this have on the mortality profile of the base product?
- Do the maximum issue ages of the product change?
- What is the source of the disabled life mortality table? Is it aligned properly with the business being sold?
- How will the active life mortality assumption be developed?

Product Design and Marketing

- Does the addition of the rider change the expected level of policyholder anti-selection in the product?
- Are the lapse rates expected to change with the addition of the rider impacting mortality deterioration?
- Is there a new simplified sales and/or underwriting process? Will this attract more unhealthy lives?
- Does the addition of the rider encourage more short-pay, asset accumulation sales?

Policy Size

- Does the addition of the rider change the expected distribution of business by band?
- What is the maximum face amount policy that the rider will be added to? How does this change the overall mortality profile?

Overlap With Other Products

- What products will the rider be added to?
- Does this determination drive certain segments of the population to alternative products, adjusting the risk profile of multiple products in the portfolio?
- Can the rider be added after issue? What impact would that have on the base product mortality profile?

Target Market

- Will the addition of the rider attract a different population to the base product (issue age, gender, socio-economic, etc.)? What impact does this have on the mortality profile of the base product?

Key Morbidity Questions

Underwriting

- What information will be gathered in the rider underwriting (tele-underwriting, Medical Information

Bureau screen, prescription drug screen, motor vehicle report, cognitive testing, APS reports, etc.)?

- Has a field underwriting guide been established with a series of knock-out questions for the rider?
- How long is the expected underwriting selection period?
- How will underwriting selection factors be developed (age, gender, policy duration, band, class, marital status, etc.)?
- What is the maximum substandard table that will be issued?

Product Design and Marketing

- Does the rider provide reimbursement or indemnity benefits?
- What are the benefit triggers?
- Over what period of time does the rider accelerate benefits?
- What is the elimination period for the benefits? Is it the same for all eligible benefits?
- Is the product tax-qualified?
- Will a licensed health care practitioner certify benefit eligibility?
- What will be the criteria for establishing eligibility requirements for any international coverage?
- For reimbursement benefits, what is the appropriate amount of salvage to factor in?
- Who will be handling claims processing?

Policy Size

- What is the maximum face amount the rider will be added to?
- What is the maximum amount per month that can be accelerated?
- Are the rider maximums in line with HIPAA limits?
- Can acceleration amounts exceed the HIPAA limit?

Key Lapse Questions

Product Design and Marketing

- Does the addition of the rider change the expected lapse rates of the base product?
- Will there be any expected lapses for policies “on-claim”?
- Are there any “return of premium” features included in the design that will impact lapse rates?
- The pricing assumption development is more complicated than a typical life product and developing an understanding of the interplay between the assumptions is critical.

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Lapse Assumptions

The lapse profile is a vital component to the overall assumption set. Given the interplay between morbidity and mortality benefits, the lapse assumption is a key to understanding the overall risks of the product.

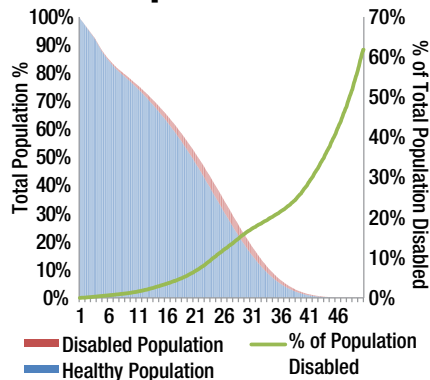
Modeling and Pricing Techniques

One of the vital factors in modeling base products with acceleration riders is the record-keeping of the active and disabled life model populations. These ultimately will drive the level of mortality and morbidity benefits, the number of active deaths, disabled deaths, recoveries from the disabled population to the active population, surrendered lives and lives that have exhausted their acceleration benefits.

Expected Benefit Development

Figure 1 is an example of the active and disabled model populations derived from the mortality, morbidity and lapse assumptions for a sample male, age 65, non-smoker.

Figure 1
Male 65 Non-Smoker
Model Population

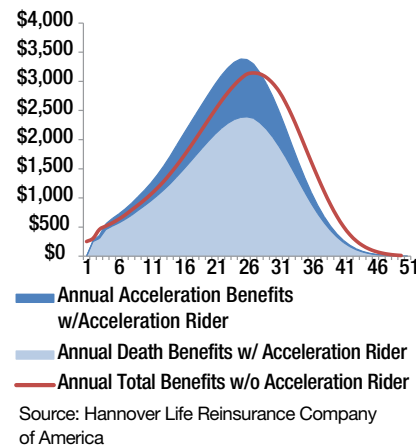


Source: Hannover Life Reinsurance Company of America

Over time, the disabled population makes up a significant portion of the total population, shifting ultimate mortality benefits from the base policy to acceleration morbidity benefits of the rider (Figure 2).

This dynamic will be important because it may materially change the underlying profitability of the base product.

Figure 2
Expected Total Benefits



As expected, the total benefits paid over the lifetime of the policy will not change, but the characterization and the timing of the benefits will be different.

Table 1
Change to Sample Insurance Policy Components at
Claim Payment - Time (t)

Insurance Component	Pre-Claim	Post-Claim	Change Due to Claim Payment
Claim Amount (t)		\$4,167	
Face Amount (t)	\$100,000	\$95,833	\$4,167
Account Value (t) ¹	\$13,959	\$13,377	\$582
Net Amount at Risk (t)	\$86,041	\$82,456	\$3,585
Claim Amount Paid from Net Amount at Risk (t)		\$3,585	
Claim Amount Paid from Account Value Reduction (t)		\$582	

¹Pro-rata reduction of account value (1/24th reduction)
Source: Hannover Life Reinsurance Company of America

For a hypothetical \$100,000 UL product where premiums fund positive cash value at age 100 and where a chronic illness acceleration rider pays 1/24th of the face amount each month over a 24-month period; and policy death benefit equals face amount in all durations, more than 25% of the total benefits paid will shift from mortality benefits to acceleration benefits by the addition of the rider. Additionally, as seen in Figure 2, the benefits will begin to emerge earlier.

On a present-value basis, the shifting of benefits forward has a pronounced impact. In this example, the present value of total expected benefits discounted at 10% is \$12,910 for a policy with the acceleration

rider and \$10,863 without the rider included, yielding an 18.8% increase.

Changes to Policy Dynamics

As the benefits are shifted due to the acceleration rider, it will be important to understand how the acceleration claim payments will impact the underlying policy. As the face amount of the policy is accelerated, a reduction to the policy account value will also be required.

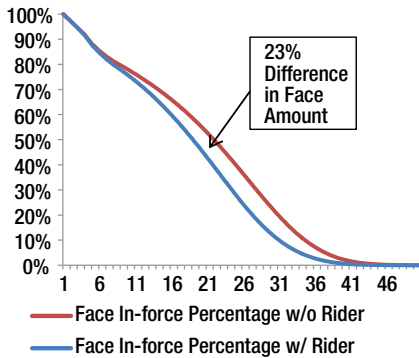
This can be done a few different ways, but is most commonly done on a pro-rata basis.

For example, if the monthly claim amount for the sample policy is \$4,167 (1/24th of the face amount), there will be changes that occur to the policy's Face Amount, Account Value and Net Amount at Risk (See Table 1).

Due to the acceleration claim activity, there is a significant difference in the in-force face amount in the model population remaining after 20 years (43% for the policy with the rider and 53% for the policy without the rider, a 23% difference. See Figure 3.)

The combination of adjustments to the policy face amount and account value from the acceleration claims also impacts the policy's net amount at risk. By the end of duration 20, there is an 8% reduction in net amount at risk growing to 43% by the end of duration 30 when compared to the base policy. Each of these changes to the policy components can have a sizable influence

Figure 3
In-force Face Amount



Source: Hannover Life Reinsurance Company of America

on the collected policy charges and ultimate profit levels.

Impact to Insurance Margin

Financially, changes to the universal life policy net amount at risk from the acceleration claim payments are what will ultimately drive the changes to profitability. The changes in net amount at risk will impact the cash inflows and outflows through the insurance charges collected and the claim amounts paid from the net amount risk.

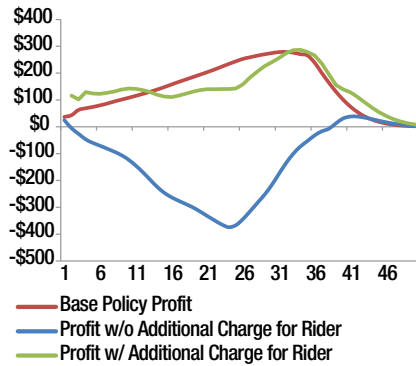
Here is a simple example of the profitability impact to the policy assuming that there is no additional charge for the acceleration rider:

The combination of the increase in benefit payments from the earlier acceleration payments and the reduction in insurance charges due to the lower in-force amounts of net amount risk causes a significant reduction

in the overall profitability level of the policy (see Figure 4).

This example is only considering the impact on insurance charge margins associated with benefit payments; a more complete pricing model (expenses, reserves and other cash flow items) would be necessary to understand the full impact. Product designs that have large initial profit strains may be affected more significantly due to the inability to recover lost profit due to the smaller model population in later policy durations.

Figure 4
Insurance Profit



Source: Hannover Life Reinsurance Company of America

Rider Charge Development

In most circumstances, the base policy is typically designed assuming no acceleration rider is attached. When the acceleration rider is attached to the policy, there may be a mismatch between the current cost of insurance charges and the level and new shape of benefits.

Additional charges for the acceleration benefits will be needed to accommodate this mismatch.

In order to maintain baseline profitability levels, the rate development for the acceleration rider must take into account the increase in the present value of benefits and the reductions in policy charges resulting from the reduced net amount at risk.

Based on the previous example, an additional \$2,572 (32.2%) of insurance charges would be required to fully restore the profitability of the product back to its original 87% benefit-to-insurance-charge ratio.

The increase of 32.2% over the base policy is significantly more than the 18.8% increase in the total benefit payments.

Simply increasing the insurance charges by the percentage increase in the total benefits will not be sufficient to offset the cost of the acceleration due to the reduction in net amount at risk over time.

The shape of the insurance profit will vary from the initial base product and analysis should be performed to ensure that negative profits are not emerging after the additional charge (see Figure 4).

Both the chronic illness acceleration riders and LTCI-linked benefit products offer unique ways for insurance companies to differentiate themselves in today's market, while filling a distinct client need as baby boomers continue to age and lack long-term care coverage.

These products can help insurance companies significantly grow the top and bottom lines as long as the major risks underlying the products are mitigated.

This requires strong assumption development, solid policy and product design, updated pricing techniques, the creation of updated underwriting guidelines, prudent claims management processes and newly available reinsurance structures. **BR**

Table 2
Impact to Profitability

	Present Values Discounted at 10%				Profit Metrics	
	Total Benefit Payments (1)	Claim Amounts Paid from Net Amount at Risk (2)	Insurance Charges Collected ¹ (3)	Insurance Profit (4)=(3)-(2)	Insurance Margin (5)=(4)/(3)	Benefit to Insurance Charge Ratio (6)=(2)/(3)
Base Policy Only	\$10,863	\$7,535	\$8,665	\$1,130	+13.0%	87.0%
Base Policy and Acceleration Rider	\$12,910	\$9,179	\$7,979	-\$1,200	-15.0%	115.0%
Difference (\$)	+\$2,047	+\$1,664	-\$686	-\$2,330		
Difference (%)	+18.8%	+21.8%	-7.9%	-206.2%		

¹ Sample base policy insurance charges are set to 115% of the net amount risk portion of the base policy expected death benefits as a proxy for COI charges. Source: Hannover Life Reinsurance Company of America