Session 137 PD, Chronic Illness Acceleration Riders—Part 2: Deep Dive

Moderator:
James M. Filmore, FSA, MAAA

Presenters:
Catherine J. Bierschbach, FSA, MAAA
Carl A. Friedrich, FSA, MAAA
John Leo Timmerberg, ASA, MAAA
PD 137

Chronic Illness Accelerated Benefit Riders – Part 2: Deep Dive

Carl Friedrich, Milliman
SOA is sponsoring a research report (not yet published) by Milliman on a wide range of living benefit riders with medically related triggers on life or annuity products, including a survey with preliminary responses from 32 companies, reflecting the following numbers by rider:

- Terminal illness - 31
- Chronic illness - 21
- LTC accelerated benefits - 8
- Life linked benefits (includes extension of benefits) - 7
- Annuity linked benefits - 5
- Critical illness accelerated benefits - 3
Attached to a variety of base plans, with the most common being UL (15), WL (10), IUL (8) and VL (6), and even 2 on term

20 on single life plans, 4 on second-to-die

Most offer on DB option A (16) or B (14) prior to claim, and 8 offer on DB option C

While on claim, the options allowed drop slightly to the following: DB option A (15), B (10), and C (6)
SOA Research Report – Chronic Illness Direct Writer Survey Findings

• 6 use the lien approach, all charging interest
• 6 use dollar for dollar DB reduction
• 9 use the discounted DB approach
  ➢ 2 discount based on underwriting at time of claim, the rest based on age at claim or age and duration since claim
• Triggers almost always include LHCP cert, 2 of 6 ADLs or cognitive impairment, 7 require permanent nursing home confinement, and only 3 require a plan of care
• 14 of 21 require expectation of permanence
Several state variations of benefit triggers, especially FL and CT
5 say they do not pay for unbilled services provided by family members, but the NAIC Model and the Interstate Compact (IIPRC) require no restrictions on use of proceeds
4 use a waiting period
90 days to 2 years
18 of 21 use a hard dollar cap or % of face cap to accelerated benefits
• 12 of 21 allow benefits to exceed HIPAA limits
• 14 offer single lump sum, 17 offer periodic lump sum (eight annual, 12 monthly, and others)
• 13 require annual recertification of LHCP
• Free riders (the majority) provide no additional agent comp, others pay as percentage of rider charges or rider CTP
SOA Research Report – Chronic Illness Direct Writer Survey Findings

• 16 require no additional underwriting, others use a supplemental app, cognitive screen, or prescription drug screen
• 10 of 11 indicate they underwrite in-house, and 21 of 22 handle claims in-house
• Virtually all of the 22 companies have incidence of claims within expectations, with 11 having lower claims than expected, but credibility is generally low
• 11 of 21 say they reinsure the rider (1 YRT, 2 coinsurance)
SOA Research Report – Chronic Illness Direct Writer Survey Findings

- 7 reinsurance deals pay at time of rider claims, 9 pay at death
- Most pricing of the rider is done in Excel (11), with MG-ALFA the second most common system (5), Prophet (1), and APL (1)
- Very low recognition of reduced utilization of chronic illness due to required presence of terminal illness rider in many states
- A few companies indicated there were some challenges in dealing with the IIPRC’s Actuarial certification of incidental benefits
• 12 of 21 filed through the IIPRC
• Of the 12 filing with the IIPRC, on average 17 other state filings outside the IIPRC were made
• State variations reported for 13 different riders, involving 26 states
  ➢ The most variations were reported in CT (benefit eligibility) and FL (lump sum payments)
More reinsurers moving to pay benefits at time of rider claim, but various concerns were expressed about direct writers’ expectations or lack of consistent reinsurance practices in this area.

Prior practices included paying their share at time of death based on NAR frozen at time of rider claim, or based on floating NAR between rider claim and death, or not paying at all.

“In some cases, the reinsurer can end up paying out more than the entire coverage in force at death.”

Some pay on surrender after a rider claim.

“At lapse you have to figure out what to pay, e.g., what if the CV is greater than the accelerated benefit?”
When the base policy is reinsured, but not the accelerated benefits, the reinsurer could collect premium on the life coverage with no payouts.

“If the reinsurer pays at death only, there are questions about the correct charge for the mortality risk between rider claim and death.”

“The pressure from the direct writers is to participate in the way the direct writer wants them to participate.”

Some reinsurers want to include examples in the treaties, but some direct writers don't want to include them.
• Many inforce treaties do not clearly address the details of the reinsurance premium and payout calculations.

• Some reinsurers’ underwriters review direct writers’ standards to see if there is any need to adjust mortality for anti-selection by rider.

• Reinsurers typically rely on the discounting done by the direct writer, but check the calculations before entering a treaty.
  ➢ One problem is the discounted value is based on the PV future death benefits - PV direct writer's premiums (not reinsurer's premium).
  ➢ Some reinsurers add an extra charge to their quotes in these cases to account for the disconnect.
SOA Research Report – Chronic Illness – Reinsurer Interviews

• The IIPRC requires that terminal illness must be included with the chronic illness rider, and this has implications with the discounted death benefit approach
  ➢ Some reinsurers have expressed concerns about pricing implications

• Biggest concern is the discounted death benefit method
  ➢ Market conduct considerations related to low percentage payouts; more of a concern on the direct side, since reinsurers are a little more protected
  ➢ In the past, very few people have taken a discounted death benefit offer, since the offers have not been viewed as attractive
  ➢ Some reinsurers question whether chronic illness discounted death benefits are ultimately viable without underwriting at the time of claim
SOA Research Report – Chronic Illness – Reinsurer Interviews

• Elimination of the permanence requirement by the IIPRC will cause some reinsurers to be less comfortable with the chronic illness risk

• Some concern about certain riders being issued without what reinsurers consider to be best practice risk controls

• There is a big distinction between riders that charge a premium versus those that don't
  ➢ Companies charging a premium are now viewing this as a way to grow premium, and a way to provide value to the client
SOA Research Report – Chronic Illness – Summary

- Significant interest among direct writers in providing living benefits on life products
- Several product designs are available to provide those benefits
- Insurers need to carefully consider marketing and pricing issues for certain designs, notably discounted death benefit approaches
- Claims experience to-date in terms of incidence rates has been favorable, but data is limited
- Reinsurers are becoming more active in fully participating in these risks
Chronic Illness Accelerated Benefit Riders

John L. Timmerberg, ASA, MAAA
Vice President, Swiss Re

SOA Annual Meeting (Session 137 PD)
October 28, 2014
Accelerated Benefit Riders on Life Insurance - Structure and Risk

- Terminal Illness
- Chronic Illness
- Critical Illness

I. Whole Life
II. Universal Life
III. Term

- Annual Maximum
- Lifetime Maximum
- Supplemental UW
- Maximum Issue Age

- Lien
- Discounted Benefit
- Benefit Reduction
Benefit Triggers by Rider Type

• Terminal Illness
  – physician certifies that the policyholder has life expectancy of 24 months or less; company may vary between 6 months and 24 months

• Chronic Illness
  – unable to perform at least two out of six Activities of Daily Living (bathing, dressing, continence, toileting, transferring, eating); or
  – severely cognitively impaired; and
  – condition certified that it is expected to persist for at least 90 days by licensed health care practitioner (these triggers are nearly identical to those for long-term care insurance; recent update to IIPRC Standards)

• Critical Illness
  – physician certifies that the policyholder has life threatening disease; list typically includes invasive cancer, heart attack, stroke, end stage renal failure or major organ transplant; companies may expand list to include other less common conditions, for marketability
Chronic Illness Accelerated Benefit Rider Example – (optional Benefit Reduction version)

• 54 year old male purchases a Whole Life policy, with an optional Chronic Illness Accelerated Benefit rider – additional premium for rider
  – The death benefit is $300,000

• 23 years later, he is 77 and he’s had Alzheimer’s for two years
  – His wife, age 73 has been caring for him at home

• She needs some help, so they decide to take an advance payment of his death benefit, in the amount of $50,000. It’s tax free.

• They receive the accelerated benefit payment and the policy’s death benefit decreases from $300,000 to $250,000.
  – Going forward, premium is billed on the reduced death benefit amount of $250,000

• The policyholder dies five years after taking his accelerated benefit payment, at age 82; beneficiaries receive $250,000
Example: Chronic Illness Rider Structure Comparison
- Death Benefit is $300,000 at time of Acceleration
- policyholder elects to accelerate $50,000 of death benefit

<table>
<thead>
<tr>
<th>Rider Type</th>
<th>Rider Premium?</th>
<th>Policy Premium after Acceleration based on …</th>
<th>Accelerated Death Benefit Payment</th>
<th>Death Benefit paid 5 years later</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit Reduction</td>
<td>Yes</td>
<td>$250,000</td>
<td>$50,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Discounted Benefit</td>
<td>No</td>
<td>$250,000</td>
<td>$37,500</td>
<td>$250,000</td>
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<tr>
<td>Lien</td>
<td>No</td>
<td>$300,000</td>
<td>$50,000</td>
<td>$239,167</td>
</tr>
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</table>
## Rider Feature Comparison

<table>
<thead>
<tr>
<th>Rider Type</th>
<th>Rider Premium?</th>
<th>Reduced Policy Premium after Acceleration?</th>
<th>Dollar for Dollar Benefit Payment?</th>
<th>Death Benefit impact includes interest on payment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit Reduction</td>
<td>Yes</td>
<td>Yes *</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Discounted Benefit</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Lien</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Is it a "Chronic Illness Accelerated Benefit" or is it “Long-Term Care Insurance”? 

- **Policy Lien**
- **Discounted Death Benefit**
- **Death Benefit Reduction**
- **Extension of Benefits Rider on Life**
- **Reimbursement LTCI Policy**
- **Indemnity LTCI Policy**
- **Lifetime Benefit Period LTCI Policy**

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**Complexity / Risk**

**Long-Term Care Insurance**

**Chronic Illness Accelerated Benefits**

**Life Insurance** | **Health Insurance**
## Exposure to Policyholder Behavior - Relative Risk Estimates by Rider Structure

<table>
<thead>
<tr>
<th></th>
<th>Anti-Selection at Issue</th>
<th>Anti-Selection at Acceleration</th>
<th>Disintermediation</th>
<th>Lapse after Acceleration</th>
<th>Regulatory or Legal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lien</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Discounted Benefit</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Benefit Reduction</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Low *</td>
<td>Low</td>
</tr>
</tbody>
</table>
Chronic Illness Accelerated Benefit Payment
- Incidence Rates

Actuarial Assumptions

- Incidence Rates
  - probability that a policyholder is chronically ill and elects to accelerate their life insurance death benefit
  - may vary by gender, attained age and other policyholder characteristics
  - product type, chronic illness certification type (90 day vs. Permanent), other product characteristics or environmental factors (interest rates)

- Raw Data Sources: LTCI policy data
  - Appendix B-D, interactive pivot table
    - gender, age-at-claim grouping, underwriting type, elimination period, issue year cohort, policy duration
Age at time of Claim

Attained Age at time of Claim (LTCI claims as source)

- 64 and under
- 65 to 69
- 70 to 74
- 75 to 79
- 80 to 84
- 85 and over

Percentage in Age Group
Chronic Illness Accelerated Benefit Payment
- Incidence Rates

Actuarial Assumptions

- Benefit Eligibility vs. Utilization – considerations when applying LTCI experience to chronic illness accelerated benefit payments
  - number who meet LTCI benefit triggers > the number that file LTCI claim
  - attractiveness of tax free cash payment without restrictions as compared to reimbursement for services (LTCI)
  - fuzzy benefit triggers: if a policyholder says that they cannot bathe or dress themselves, how do you prove that they can?
  - policyholder's desire to conserve their benefits; variation by face amount
  - decrease in death benefit paid to beneficiaries vs. cash today
Chronic Illness Accelerated Benefit Payment - Incidence Rates

Actuarial Assumptions

• Other Adjustments to Incidence Rates
  – life mortality underwriting and its impact on chronic illness incidence
    – example: Life Insurance Preferred UW Class → Preferred Chronic Illness
  – annual mortality improvement → chronic illness morbidity improvement
  – slope of mortality curve vs. slope of chronic illness incidence curve
    – interaction between steep mortality curve and chronic illness incidence rate curve
  – presence of other accelerated benefit riders
Disabled Life Mortality
Actuarial Assumptions

• Disabled Life Mortality
  – mortality rates for chronically ill policyholders who have elected to take an accelerated death benefit payment

• Data Sources for constructing Disabled Life Mortality Rates
  – LTCI claim terminations: recovery, exhaust benefits, death
    – example of disabled life mortality study: remove recoveries from policies with unlimited benefits; only deaths remain
  – SOA LTCI Experience Study – Appendix J-7 (new for 6th update)
    – mortality rates for LTCI claimants
    – Roughly, annual mortality rates varying between 15% and 30%
    – by gender; grouped by age at time of claim; by claim duration
  – pattern of Disabled Life Mortality Rates - concave
    – ratio of cognitive to non-cognitive claims increasing with claim duration
Length of Claim (in days)
- life expectancy of chronically ill claimant

![Bar chart showing the expected length of claim for various conditions.](chart.png)
Alzheimer's Claims

Percent Alzheimer's Claims, by attained age

- 64 and under
- 65 to 69
- 70 to 74
- 75 to 79
- 80 to 84
- 85 and over
Disabled Life Mortality
Adjustments or Additional Considerations

• Adjustments for Supplemental Underwriting
  – cognitive screens and maximum issue age

• Adjustment for presence of terminal illness rider

• Potential for policyholder anti-selection at time of acceleration
  – policyholders with longest life expectancy will want to accelerate their death benefit
  – Fundamental Assumption – chronically ill policyholders have much higher mortality as compared to other active policyholders
  – Risk is that policyholders taking accelerated benefit payments have lower mortality than expected.

• Variations by type of chronic illness rider
  – incentive to accelerate vs. not
  – claim begins early; will last longer
Cost variations by Underlying Life Product

- Costs of foregone premiums - pairing of rider structure with underlying life product is important to level of rider risk
  - combinations in market include Term or UL paired with Discounted Benefit, Whole Life or UL paired with Benefit Reduction, Whole Life paired with Lien
- UL: COIs or target premiums
  - Depending upon knowledge of policyholder behaviour or product structure
  - decreasing Net Amount at Risk for accumulation products
- WL: gross level issue age premiums
  - scheduled and decreasing Net Amount at Risk
- Term: level term and post-level term premium
  - Some Life/Rider structures can result in minimal payments to policyholders
- Slope of mortality rates as compared to slope of chronic illness incidence rates
Whole life premiums are level over life of policy
Cost of foregone premiums is relatively low
  - Blue (Chronic Illness incidence rates)
  - Green (Whole Life premium rates)

Age →
Term products and Chronic Illness Incidence Rates

- End of Term period; slope of post level term premium rates
- Interaction with higher rates of chronic illness incidence
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Session 137 PD:
Chronic Illness Acceleration Riders
Part 2: Deep Dive

Cathy Bierschbach
SOA Annual Meeting
October 28, 2014
The material contained in this presentation has been prepared solely for informational purposes by Gen Re. The material is based on sources believed to be reliable and/or from proprietary data developed by Gen Re, but we do not represent as to its accuracy or its completeness. The content of this presentation is intended to provide a general guide to the subject matter. Specialist advice should be sought about your specific circumstances.
Dive Plan

• Determine cost of rider
  - PV of Profits with rider minus PV of Profits without the rider
    - Differing views between policyholder, direct writer and reinsurer
    - Other Potential complications
      - Impact on other metrics
        - Changes in timing of benefits
      - Impact on volume of sales

• Hazards to watch out for
  - Computer/Tables are based on different experience, make sure to adjust accordingly
  - Low Visibility
    - Illustration
    - Claim
  - Sharks (a.k.a. class action lawyers)
Dive Log Review

Typical Change in LTC Premium from 2000 to 2012

- Pricing 2000
- Incidence 2012
- Continuance 2012
- Mortality 2012
- Lapses 2012
- Interest 2012


+53% +30%
Dive Checklist

1. Premiums
2. Dividends
3. Cash Values
4. YRT Rates
5. Life Time Maximum
6. Residual Death Benefit
7. Adjustments to Death Benefit (if applicable)
8. Annual Maximum and Applicable IRS limits
9. Disabled Life Mortality Assumptions/Methodology
10. Incidence Rates
11. Recovery Assumptions
12. Utilization Rates
13. Lapse Assumptions
• Benefit paid to the consumer is a calculation based on relationship with direct writer

• Relationship between direct writer and reinsured is different
  - Reinsurance YRT premiums
    - Generally multiple(s) of S&U mortality table
    - Slope increases sharply at same point incidence rates increase
    - Greater share of premium is missed than if premiums are level
    - Reinsured NAR pattern can either mitigate or aggravate differences
      - Impact can be compounded/dampened by
        - How cash values are adjusted at the time of claim
        - Dividend participation
        - Reinsurance structure
• 45 Standard Non Smoker $100,000 policy Annual Premium of $1,000
• Contracts Chronic Illness Age 70 Life Expectancy 3 years

• Direct Writer’s View
  - PV Death Benefit=$88,900 \[100,000/1.04^3\]
  - PV Premium=$2,886 \[1,000+1,000/1.04+1,000/1.04^2\]
  - Net Cost=$86,014

• Reinsurer View (Charging 100% 08VBT)
  - PV Death Benefit=$88,900 \[100,000/1.04^3\]
  - PV Premium=$5,518 \[1,708+1,910/1.04+2,135/1.04^2\]
  - Net Cost=$83,381

• Average NAR needs to be around $50,000 for them more in balance
Multilevel Dive

1984-2007 Long Term Care Intercompany Study Claim Continuance Appendix E-4

- Room for policy holder anti-selection
- What underwriting, if any, will be done at time of claim?
Dive Log #2

• Price assuming a Continuance for Alzheimer’s, Cancer, Stroke, Respiratory, Circulatory and Nervous System
• $500,000 policy with monthly premiums of $1,000 accelerating $100,000
• PV@4% DB=$92,185 PV@4% Premium=$4,590 Implies Payout of $87,595
• Policyholder’s View

<table>
<thead>
<tr>
<th></th>
<th>Exp Yrs on Claim</th>
<th>Saved Premium</th>
<th>PV of Benefit</th>
<th>Expect Payout</th>
<th>Good deal?</th>
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<tr>
<td>Alzheimer’s</td>
<td>3.07</td>
<td>$6,959</td>
<td>$88,655</td>
<td>$81,696</td>
<td>Yes</td>
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<tr>
<td>Cancer</td>
<td>0.85</td>
<td>$1,964</td>
<td>$96,739</td>
<td>$94,774</td>
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<tr>
<td>Stroke</td>
<td>2.50</td>
<td>$5,706</td>
<td>$90,651</td>
<td>$84,945</td>
<td>Yes</td>
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<tr>
<td>Respiratory</td>
<td>1.40</td>
<td>$3,302</td>
<td>$94,657</td>
<td>$91,355</td>
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<td>Circulatory</td>
<td>1.78</td>
<td>$4,052</td>
<td>$93,261</td>
<td>$89,209</td>
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<tr>
<td>Nervous System</td>
<td>2.72</td>
<td>$6,246</td>
<td>$89,889</td>
<td>$83,643</td>
<td>Yes</td>
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</table>

• Adjust to use Continuance for just Alzheimer’s, Stroke, and Nervous System
• PV@4% DB=$90,177 PV@4% Premium=$5,821 Implies Payout of $84,356
• No longer a good deal for Stroke, remove that...
• Without the rider “simple” PV of Premiums minus PV Death Claims
  - Existence of rider may impact assumptions

• Rider complications
  - Claim not necessarily a onetime event
  - Requires combination of life and LTC pricing
  - For each issue age need to project PV of Premiums minus PV Benefits assuming claim at each duration
    - How is disabled mortality determined
    - Does recovery need to be considered
  - Incidence rates determine weighting of the cash flows
    - Need to adjust for utilization
  - Impact on NAR pattern
  - Changes in lapse rates and other assumptions
  - Change in distribution
Cathy Bierschbach
VP & Chief Pricing Actuary- Individual Products Division
Gen Re - A Berkshire Hathaway Company
Tel. 203 352 3168| Email cathy.bierschbach@genre.com
Visit genre.com for more info.