

Actuarial Memorandum
In Support of a Premium Rate Increase Request
Policy Forms: 2400 et al, 2600 et al, 6000 et al, 6500 et al, HHC et al, HHC92 et al, IL94 et al, LTC et al, LTC-300 et al, LTC91 et al, LTC94 et al, NHP et al

This filing has been prepared by the Long Term Care Group, Inc. ("LTCG") on behalf of the 19 Guaranty Associations ("GAs") listed in Exhibit V that are obligated to provide benefits to policies issued in Maryland by Penn Treaty Network America Insurance Company ("PTNA") as a result of a March 1, 2017 order of liquidation of this company.

The following table shows the number of premium paying policies issued in Maryland that are affected by this filing, listed by the obligated GA State, which is determined by each policyholder's state of residence at either the date of rehabilitation or liquidation.

| Policies by Guaranty Association State | | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| GA State | Policies | GA State | Policies | GA State | Policies |
| AR | 2 | KY | 1 | SC | 8 |
| AZ | 2 | MD | 426 | SD | 1 |
| CO | 2 | NC | 9 | TN | 3 |
| DC | 6 | NM | 1 | TX | 3 |
| DE | 4 | OR | 1 | VA | 20 |
| FL | 22 | PA | 21 | VT | 2 |
| GA | 2 | | | | |
| Total | | | | | 536 |

These forms were issued in your state from January 1978 through October 2001 and are no longer being sold in any state.

1. Purpose of Filing

This actuarial memorandum has been prepared for the purpose of demonstrating that the anticipated loss ratio of this product meets the minimum requirements of your state and may not be suitable for other purposes.

The affected GAs are exercising their authority to request approval of a premium rate increase on the forms listed in the enclosed filing materials. A rate increase is being requested in order to establish premium rates that are reasonable in relation to benefits based on the actual experience of the forms and the current interest rate environment. The requested increases will not completely address the asset shortfall that exists in the liquidated companies.

The original policy forms for the policies affected by this filing contain language that requires a change in the premium rate for every policy issued under the respective form if a rate change is requested on any policy issued under that form. Due to the methodology described herein, there are policies on which we are not requesting an increase. For those policies, we are requesting an exemption from this requirement in order to not change rates for these policies.

2. Benefits

Exhibit III contains a summary of the benefits covered by the policy forms in this filing. A complete description of the benefit provisions and conditions for eligibility is contained in the policy forms and riders on file with the state.

3. Marketing Method

These plans were marketed to individuals by licensed agents.

4. Underwriting Description

All policies were subject to full medical underwriting in accordance with company standards in place at the time of issue.

5. Renewability

These policies are guaranteed renewable for life, as provided for under the terms and conditions of the policies.

6. Applicability

This filing is applicable to all in-force policies and associated riders issued in your state on the above-referenced forms.

7. Actuarial Assumptions

The assumptions used in our rating methodology and projections of future experience are based on PTNA's and affiliate American Network Insurance Company's ("ANIC's") combined historical experience on these forms through 2016. We determined that the underlying experience data for these forms to be very credible and consistent with inter-company experience. The assumptions represent our best estimate of future experience based on information available today and are summarized below. They do not include provisions for adverse deviation. A detailed description of our experience analyses and assumptions can be provided upon request.

- a. Morbidity. We developed assumptions on a first-principles basis using an approach that is consistent with application in a first-principles based model that separately projects active and disabled lives. We do not apply assumptions for potential future changes in claim incidence or claim termination rates that may result from possible environmental changes in care delivery or other factors that may affect prevalence in rates of disability.
- b. Lapse rates. We developed active-life lapse rate assumptions by coverage type, issue age and policy duration.
- c. Mortality rates. Active life mortality is represented by the 2012 IAM Table with durational factors developed from actual experience. Disabled life mortality is based on actual experience. We do not apply an assumption for potential future mortality improvement.
- d. Expenses. Expense assumptions were not used in the calculation of the proposed premium rates or the demonstration of loss ratios contained herein.
- e. Interest. Calculations that require discounting or accumulating of earned premiums or incurred claims apply an annual interest rate of 4.25%.

8. Premiums

Premium rates are unisex, level (with the exception of rate increases) and payable for life. The premiums vary by issue age, daily benefit, benefit period, elimination period, benefit increase option, and any applicable riders selected. The original rate sheets for the referenced forms are attached as Rate Sheets. Those rates with the historical increases applied, which are summarized in Exhibit IV represent the current rates being charged.

9. Issue Age Range

Issue ages may vary by form. Available options, by form, can be found in the attached rate tables.

10. Area Factors

Area factors are not used for these products.

11. Premium Modalization Rules

The following modal factors and percent distributions are applied to the annual premium.

| Factors and Policy Distribution by Premium Mode | | | |
|---|---------------|----------------|-------------------|
| Premium Mode | Modal Factors | With Inflation | Without Inflation |
| Annual | 1.000 | 42.5% | 41.0% |
| Semi-Annual | 0.520 | 4.5% | 8.4% |
| Quarterly | 0.265 | 8.1% | 11.2% |
| Monthly | 0.085 | 45.0% | 39.3% |
| Total | | 100.0% | 100.0% |

12. Reserves

Active life reserves have not been used in this analysis. Claim reserves as of December 31, 2016 have been discounted to the date of incurral of each respective claim and included in historical incurred claims. Incurred but not reported reserve balances as of December 31, 2016 have been allocated to the calendar year of incurral and included in historic incurred claims.

13. Trend Assumptions

We applied an assumption of a 1% annual increase in home care costs and 4% on facility-based care in the future projection or morbidity costs. This assumption was developed from the *2014 Genworth Cost of Care Survey*.

14. Past and Future Policy Experience

Exhibits I-a, I-b, and I-c illustrate historical experience and projected future experience for all forms issued by PTNA and ANIC nationwide. The historical experience shown considers the actual premium rates that were charged to the policyholders and actual benefits incurred. Future experience assumes that the premium rates currently in place will continue to be charged and that guaranty association benefit limits will be applied to future payments.

Exhibits II-a, II-b, and II-c are the same as Exhibits I-a, I-b, and I-c, except that future premiums assume premium rate schedules for the policies will be changed nationwide using the method described in this memorandum.

Exhibit I-a and II-a are for all policies.

Exhibit I-b and II-b are only for policies with Inflation.

Exhibit I-c and II-c are only for policies without Inflation.

Exhibits I-d, I-e, I-f, II-d, II-e and II-f are the corresponding state specific exhibits and have been included for informational purposes.

Historical experience is shown by claim incurral year with the loss ratio for each loss year calculated by the following formula:

$$LR_j = \frac{\sum_{t=j}^{2016} Pmt_t^j v^{t-j} + {}_jCR_{2016} v^{2016-j+1/2} + {}_jIBNR_{2016} v^{2016-j+1/2}}{EP_j}$$

LR_j = loss ratio for year j

Pmt_t^j = claim payments in year t, on claims incurred in year j, assumed to occur mid-year

${}_jCR_{2016}$ = open claim reserve held on December 31, 2016 for claims incurred in year j

${}_jIBNR_{2016}$ = incurred but not reported reserve as of December 31, 2016 attributable to claims incurred in year j

EP_j = earned premium in year j, assumed mid-year

j = year of incurral

$v = 1 / 1.0425 = 0.95923261$

A future annual loss ratio is calculated, with and without interest, as anticipated incurred claims divided by earned premiums.

A lifetime loss ratio as of December 31, 2016 was calculated as the sum of accumulated past experience and discounted future experience where accumulation and discounting occur at 4.25%.

15. Projected Collected Premiums and Paid Claims

Exhibits I & II contain lifetime projections of earned premium and incurred claims for the affected policy forms. The methods and assumptions used to prepare these exhibits are described in other sections of this memorandum.

16. History of Previous Rate Revisions

Exhibit IV shows all historical rate increases by form.

17. Requested Rate Increase and Demonstration of Satisfaction of Loss Ratio Requirements

We calculated the proposed premium rate increases in two steps that are described in the following paragraphs.

- a. Calculate policyholder-specific Target Premium Rates ("TPRs"). A TPR is calculated for each individual policyholder. This TPR represents the level premium rate that would have been charged at the issuance of the policy if current morbidity, lapse, mortality, and investment assumptions were used in the pricing of the original form. These current assumptions are described in Section 7 of this memorandum. The TPR is calculated with a provision for a 60% lifetime claims ratio from issuance and also takes into consideration the GAs respective limit on benefits as if this limit had been in place for the original policy since issue.
- b. Aggregate results. We grouped the results of our TPR calculations by three characteristics: 1) the state in which the original policy was issued; 2) the age of the policyholder when the original policy was issued (grouped by 7 issue age bands); and 3) the presence (or lack of presence) of an inflation feature. We summed the TPR for all policies within each of combination of these groupings and compared that to the sum of the premium rates currently being charged to those same policies. The ratio of the sum of the TPR over the sum of current premium rates for each grouping was then rounded to the nearest factor of 0.05 and applied to all policies within each grouping to arrive at the proposed premium rate for each policy. In no case did we apply a ratio that is less than 1.00.

Understanding that under COMAR 31.14.01.04A(5), there is a maximum 15% annual increase allowable, the methodology described above results in the following rate increases being requested by the participating GAs:

| Year | Policies with Inflation | | | | | Policies without Inflation | | |
|--------|-------------------------|-------|-------|-------|-------|----------------------------|-------|-------|
| | <55 | 55-59 | 60-64 | 65-69 | 70-74 | <55 | 55-59 | 60-64 |
| Year 1 | 15% | 15% | 15% | 15% | 10% | 15% | 15% | 15% |
| Year 2 | 15% | 15% | 15% | 4% | | 15% | 15% | 15% |
| Year 3 | 15% | 13% | 2% | | | 15% | 15% | 2% |
| Year 4 | 15% | | | | | 15% | 15% | |
| Year 5 | 8% | | | | | | | |
| Total | 88.9% | 49.4% | 34.9% | 19.6% | 10.0% | 74.9% | 74.9% | 34.9% |

We note that, in choosing the characteristics that we used to group policies for Step b., we first analyzed various characteristic groupings to identify those with the strongest correlation to differences between TPRs and current premium rates. We found that the strongest correlations occurred with the three characteristics listed above.

As shown in Exhibit II-d, the expected lifetime loss ratio for the policy forms affected by this filing (considering premiums collected in the past and if the proposed rate increases are approved) is 83.8%, which exceeds the required minimum loss ratio of 60% for policies issued prior to the adoption of premium rate stabilization. We note that all of the affected policies were originally issued prior to that date. Exhibit II-a shows that the corresponding nationwide expected lifetime loss ratio is 92.9%, if this rating method is applied nationwide.

If we applied a traditional 60% loss ratio methodology to these forms, we would be able to justify a rate increase of 949%.

Projected experience assuming this increase is implemented is shown in Exhibit II-a, II-b, II-c, II-d, II-e and II-f. As shown in these exhibits, the expected lifetime loss ratios with and without the requested rate increases exceed the minimum loss ratio of 60%.

The affected GAs will offer insureds affected by the premium increase several options to change their benefits in order to provide the flexibility of choice for those insureds who wish to maintain a premium level reasonably similar to what they were paying prior to the rate increase.

Policyholders will be given the option to choose a reduced benefit structure. These offers will provide an opportunity for policyholders to select a more affordable premium rate. Specifically, policyholders with an inflation protection feature will be given the option to remove this feature. This will result in a cessation of future benefit increases, preservation of the policy's accrued benefit increases and a corresponding reduction in premium rates.

Policies with benefits that are above the GA limits will be given the option to reduce their maximum lifetime benefits to the GA limit that applies to their policy.

Policyholders without an inflation protection feature and benefits under the respective GA limit will be given the option to reduce their daily benefit.

Policies will have non-forfeiture options available to them. The first option provides a paid-up policy with benefits equal to the total of premium paid, less any claims paid since the original policy was issued. The second non-forfeiture option is a cash payment equal to the greater of the actuarial liability of the reduced paid up policy or 50% of the actuarial liability under the current policy benefits, with consideration for the respective GA limit.

18. Maryland Average Annual Premium

| Average Annual Premium | | |
|------------------------|----------------|-------------------|
| | With Inflation | Without Inflation |
| Before Increase | \$2,345 | \$2,288 |
| After Increase | \$3,373 | \$2,480 |

19. Proposed Effective Date

This rate increase will apply to policies on their anniversary date of issue or last coverage change, following a minimum 60-day policyholder notification period.

20. Nationwide Distribution of Business as of December 31, 2016 (Based on Policy Count)

| By Issue Age | | |
|--------------|----------------------|---------------|
| Issue Age | Percent Distribution | |
| | w/ Inflation | w/o Inflation |
| <55 | 23.2% | 6.1% |
| 55-59 | 27.0% | 9.2% |
| 60-64 | 29.0% | 24.6% |
| 65-69 | 16.5% | 32.5% |
| 70-74 | 3.7% | 19.3% |
| 75-79 | <1% | 7.1% |
| 80+ | <1% | 1.1% |
| Average | 59 | 66 |

| By Inflation Protection Option | |
|--------------------------------|----------------------|
| Benefit Increase | Percent Distribution |
| None | 43.0% |
| Simple | 1.9% |
| Compound | 55.0% |

| By Elimination Period | | |
|-----------------------|----------------------|---------------|
| Elimination Period | Percent Distribution | |
| | w/ Inflation | w/o Inflation |
| 0 day | 56.1% | 62.3% |
| 20 day | 2.3% | 6.3% |
| 30 day | 1.4% | 1.5% |
| 50 day | <1% | <1% |
| 60 day | 2.1% | 2.6% |
| 90 day | 10.5% | 9.3% |
| 100 day | 13.8% | 12.0% |
| 120 day + | 13.8% | 6.0% |

| By Benefit Period | | |
|---------------------------|-----------------------------|----------------------|
| Benefit Period | Percent Distribution | |
| | w/ Inflation | w/o Inflation |
| 12 months | <1% | 4.1% |
| 24 months | 9.3% | 11.9% |
| 36 months | 8.8% | 11.7% |
| 48 months | 4.2% | 6.2% |
| 60 months | 2.5% | 3.7% |
| 72 months | 1.7% | 1.9% |
| \$73,000 | 2.0% | 3.1% |
| \$75,000 | 3.7% | 4.7% |
| \$109,500 | 2.2% | 2.8% |
| \$150,000 | 11.6% | 10.8% |
| \$250,000 | 11.1% | 8.2% |
| Lifetime | 41.9% | 30.8% |

21. Number of Policyholders

As of December 31, 2016, the number of Maryland-issued and nationwide policies in-force is:

| | Number of Policyholders and Annualized Premium | | | |
|------------|---|----------------------|------------------------------------|----------------------|
| | Number of Insureds | | In-force Annualized Premium | |
| | w/ Inflation | w/o Inflation | w/ Inflation | w/o Inflation |
| Maryland | 358 | 178 | \$839,527 | \$407,217 |
| Nationwide | 38,011 | 28,730 | \$81,960,431 | \$55,023,484 |

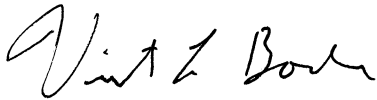
22. Actuarial Certification

I am an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries, and I meet the Academy's qualification standards for preparing health rate filings.

This memorandum has been prepared in conformity with all applicable Actuarial Standards of Practice, including ASOP No. 8.

I have relied on projection information provided by PTNA. I have reviewed and taken into consideration the policy design and coverage provided by PTNA's underwriting and claims adjudication processes.

I hereby certify that, to the best of my knowledge and judgment, this rate submission is in compliance with the applicable laws and regulations of your state when the original issued rates were first filed and accepted. In my opinion, the actuarial assumptions are appropriate and the rates are not excessive or unfairly discriminatory.



Vincent L. Bodnar, A.S.A., M.A.A.A.
Chief Actuary, LTCG

Date: July 12, 2017