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## Actuarial Memorandum

**UniProduct Series which includes Policy Forms:  
TLC 1-FP (MD) 402, TOL 1-FP (MD) 402 and LI 1-FP (MD) 402**

### Long Term Care Coverage

#### 1) **Scope and Purpose**

This rate filing is a request for a premium rate increase on the base policy as well as all associated riders for all lifetime premium paying insureds covered under the above captioned policy forms. The purpose of this memorandum is to file revised premium rates and demonstrate that the anticipated loss ratio meets the minimum requirements of Maryland. This memorandum is not to be used for other purposes.

The proposed rate increase does not apply to policies that were purchased with a single-pay or limited-pay premium payment plan. The experience for policies with these premium payment plans has also been excluded from all analysis and justification for the proposed rate increase.

This rate filing is a request for two annual 15% increases in premium, the first of which is to be effective upon approval by the state, on the base contract and all associated riders. This is in follow up to the 2017 approval of 15%. The originally requested rate increase of the prior filing was 65%.

This premium rate increase is needed due to claim levels that produce lifetime loss ratios above the statutorily required minimum loss ratio.

The requested rate increase will take effect upon approval by the Maryland Department of Insurance subject to all notification requirements. The requested premium rate increase is needed because experience has exceeded the margin for adverse experience included in the original pricing, resulting in lifetime loss ratios that exceed the standards for rate action under the rate stability regulations.

This filing is also a request to allow the Company to make available to eligible policyholders with a benefit increase option (BIO) the means to completely offset the requested rate increase by agreeing to reduce the BIO growth factor applicable to their policy. If elected, the reduced BIO growth factor would begin to apply on the anniversary date following the effective date of the rate increase. Once applicable, the reduced BIO factor would remain in effect in all future years the policy remains in force. The growth in policy benefits accumulated from issue-to-date would not be lost for policyholders electing this downgrade option. Policyholders eligible for this downgrade option would be limited only to those who currently have BIO included on their policy where benefit growth is unlimited. The reduced future BIO growth factors to which policyholders would need to agree to completely offset the requested rate increase are as follows:

BIO Type	Current BIO Growth Factor	Future BIO Growth Factor
Compound	5.00%/year	3.44%/year
Compound	3.00%/year	2.23%/year
Simple	5.00%/year	3.33%/year

This BIO downgrade offer would only affect the rate increase request of this filing. Policyholders who elect this BIO downgrade offer may still be subject to additional future rate action were it to become justified due to further deterioration of experience not currently anticipated as explained in the second prior paragraph.

These Future BIO Growth Factors were calculated using a Gross Premium Valuation (GPV) approach which calculates the present value of all premiums less all benefits and expenses to determine the profits of the block of business using the various assumptions explained in later sections of this memorandum. The GPV was first calculated using the one-time rate increase percentage, e.g., the 65%. Then, the GPV was calculated without the one-time rate increase but with the BIO growth factors reduced. This calculation was iteratively repeated until the GPV result matched that calculated with the one-time rate increase. Thus the Future BIO Growth Factors produce the same present value results as the requested rate increase.

The requested rate increase percentage will not vary by issue age, benefit period, benefit increase option, or any other component of the coverage.

## 2) **Benefits \***

### **Base Benefits**

#### *A. Nursing Home Benefit*

Once the Elimination period has been met, the actual charges incurred for each day the Insured Person is confined to a Nursing Home will be paid, up to the Maximum Daily Benefit.

#### *B. Bed Reservation Benefit*

When an Insured Person is absent for any reason other than discharge during a Nursing Home or Assisted Living confinement, we will (1) pay the actual charges incurred for room and board while the room is being reserved, up to the Maximum Daily Benefit, if the Elimination Period has been satisfied, (2) give credit toward the satisfaction of the Elimination Period where the absence occurs while the Elimination Period is being satisfied; or (3) a combination of (1) and (2).

#### *C. Assisted Living Facility Benefit*

The actual charges for room and board and necessary maintenance and personal care expenses incurred for each day the Insured Person is confined to an Assisted Living Facility, up to the Maximum Daily Benefit, will be paid if treatment and/or services are received from a licensed, registered or certified Assisted Living Facility.

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\* This is not intended to be a comprehensive listing of all benefits available.

*D. Home Health Care and Adult Day Care Benefit*

The actual charges incurred for each day the Insured Person receives Home Health Care and Adult Day Care, up to the Maximum Daily Professional Services Benefit or the Maximum Daily Basic Services Benefit (whichever is applicable), will be paid.

*E. Alternative Payment Benefit*

Once an Insured Person has met the benefit eligibility, the insurer will pay the Monthly Benefit in advance each calendar month. This benefit will be paid in lieu of all other benefits for care or services provided under this policy.

*F. Respite Care Benefit*

The actual charges incurred for Respite Care, up to the Respite Care Maximum Daily Benefit(s), will be paid if such treatment and/or services are received from a Nursing Home, and Assisted Living Facility or in the Insured Person's Home.

*G. Hospice Care Benefit*

The actual charges incurred for each day an Insured Person receives Hospice Care, up to the Maximum Daily Benefit, will be paid by the insurer if it has been estimated by a doctor that the Insured Person has a life expectancy of 6 months or less and no reasonable prospect of cure and the treatment and/or services are received from a Hospice Care Provider.

*H. Therapeutic Device Benefit*

The actual charges incurred for the rental or purchase of a Therapeutic Device will be paid by the insurer if:

1. the Insured Person is receiving the Care Coordination Benefit; and
2. the Therapeutic Device is used in the Insured Person's Home.

*I. Medical Alert System Benefit*

The actual charges incurred for a Medical Alert System will be paid by the insurer for either: (1) rental and/or monitoring costs, not to exceed the monthly Medical Alert System Benefit; or (2) at the discretion of the insurer, the actual purchase cost of a Medical Alert System if the Insured Person is receiving the Care Coordination Benefit.

*J. Home Modification Benefit*

The actual charges incurred, not to exceed the Maximum Lifetime Home Modification Benefit, for labor, equipment and supplies needed in making minor modifications to the Insured Person's Home that will enhance his or her ability to perform the Activities of Daily Living and allow the Insured Person to safely remain in his or her home will be paid by the insurer if the Insured Person is receiving the Care Coordination Benefit.

*K. Caregiver Training Benefit*

The actual charges incurred for Caregiver Training of the Insured Person or a Volunteer Caregiver to assist an Insured Person, not to exceed the Maximum Lifetime Caregiver Training Benefit, will be paid by the insurer if:

1. the Insured Person is receiving the Care Coordination Benefit; and
2. Caregiver Training is not already provided free of charge by an equipment or supply vendor.

*L. Waiver of Premium*

Premiums will be waived on a monthly basis once the Elimination Period has been met and while the Insured Person is receiving Nursing Home, Assisted Living Facility, Home Health Care or Adult Day Care benefits, or the Alternate Payment Benefit.

*M. Contingent Non-forfeiture Benefit – Shortened Benefit Period*

In the event that premium rates increase to a level which results in a cumulative increase of the premium equal to or exceeding the percentage of the initial premium set forth in the Triggers for a Substantial Premium Increase table, the Insured Person will receive the Contingent Non-forfeiture benefit, and he or she may elect to: (1) reduce current benefits; or (2) during the 120 days following the Premium Due Date on which the increased premium would first have become due, convert his or her coverage as follows:

1. the daily benefit amounts available will remain as they were at the time coverage would have lapsed under the policy;
2. the total benefit amount in force under this benefit will be equal to the amount of all premium paid, excluding waived premiums, for all coverage combined including this benefit.

The minimum benefit will be 30 times the daily benefit in force at the time the policy would have lapsed.

**Optional Benefits**

*A. Prescription Drug Benefit in a Nursing Home*

An Insured Person will receive the Prescription Drug Benefit if they are receiving prescription drugs while confined to a Nursing Home and receiving the Nursing Home Benefit.

*B. Ambulance Benefit*

The actual charges incurred for emergency ambulance service to or from a Nursing Home, up to the Maximum Benefit for each Ambulance Trip, will be paid if the Insured Person has not reached the Maximum Benefit Limitation or the Maximum Number of Trips per Calendar Year.

*C. Monthly Home Care Benefit*

If the Insured Person is receiving the Care Coordination Benefit, the actual charges incurred for Home Health Care and Adult Day Care will be paid on the basis of services received during each continuous 30-day period rather than on a daily basis. This benefit will be in lieu of the Home Health Care and Adult Day Care Benefit.

*D. Professional Services Benefit at 2 times Basic Services*

An applicant may choose to have a Maximum Daily Benefit for Professional Services equal to 2 times the Maximum Daily Benefit for Basic Services.

*E. Nursing Home Indemnity Payment Option*

In lieu of the Nursing Home Benefit, the full amount of the Nursing Home Maximum Daily Benefit will be paid to the Insured Person.

*F. Full Restoration of Benefits*

Once a period of time during which the insurer has been paying benefits under the policy has ended, the benefit amounts that have been paid will be restored to the

remaining applicable Maximum Benefit if the Insured Person has ceased to be a Chronically Ill Individual for at least 180 consecutive days and the policy remains in force.

*G. Joint Waiver of Premium Benefit*

When the spouse of an Insured Person is receiving the Waiver of Premium Benefit, the Insured Person's premiums will be waived if both the Insured Person and spouse are insured as a married couple on the same policy form series which includes this Joint Waiver of Premium Benefit.

*H. Survivorship –Waiver of Premium (insured under same policy)*

The premiums for the surviving Insured Person will be waived, after the last of the following to occur: (1) the date of death of the other Insured Person; or (2) the tenth anniversary of the effective date of this policy, if:

1. The Insured Person and other Insured Person have coverage in force under this policy; and
2. the other Insured Person dies while this policy is in force.

Several variations of this benefit are that the Insured Person(s) must not have incurred any claims and / or a death did not occur during the Number of Years Insured shown on the schedule, and listed below:

1. No deaths within the first 5 policy years,
2. No deaths or claims within the first 5 policy years, and
3. No deaths or claims within the first 10 policy years.

*I. Spouse Survivorship –Waiver of Premium (insured under separate policies)*

The premiums for the surviving Insured Person will be waived, after the last of the following to occur: (1) the date of death of the spouse; or (2) the tenth anniversary of the effective date of this policy, if:

1. The Insured Person and the spouse have coverage in force under this form series; and
2. the spouse dies while both policies are in force.

Several variations of this benefit are that the Insured Person(s) must not have incurred any claims and / or a death did not occur during the Number of Years Insured shown on the schedule, and listed below:

1. No deaths within the first 5 policy years,
2. No deaths or claims within the first 5 policy years, and
3. No deaths or claims within the first 10 policy years.

*J. Simple Benefit Increase Option*

Every dollar benefit amount will increase by the percentage shown on the schedule of the original dollar benefit amounts on each anniversary of the option, up to the Maximum Multiple, so long as the option remains in force.

Several variations of this option were priced:

1. 3%, with unlimited increases,
2. 3%, with increases capped at 2 times the original benefit amount,
3. 5%, with unlimited increases, and
4. 5%, with increases capped at 2 times the original benefit amount.

*K. Compound Benefit Increase Option*

Every dollar benefit amount will increase by the percentage shown on the schedule of the current dollar benefit amounts on each anniversary of this option, up to the Maximum Multiple, so long as the option remains in force.

Several variations of this option were priced:

1. 3%, with unlimited increases,
2. 3%, with increases capped at 2 times the original benefit amount,
3. 5%, with unlimited increases, and
4. 5%, with increases capped at 2 times the original benefit amount.

*L. Step Rated Compound Benefit Increase Option*

Current premiums will increase and every dollar benefit amount will increase by the percentage shown on the schedule on every anniversary, every third anniversary or fifth anniversary of this option so long as the option remains in force. This option is not available on any limited payment plan.

*M. Deferred Benefit Increase Option*

The Insured Person may add a Benefit Increase Option without evidence of insurability within the 90 day period prior to the first, third, or fifth anniversary of the policy, if they have not incurred a claim. The additional premium required for the Benefit Increase Option selected will be based on the attained ages of the Insured Persons when this option is exercised, and the increases in dollar benefit amounts will take effect on the second anniversary after this option is exercised.

*N. Guaranteed Purchase Option*

The Insured Person will have the opportunity to purchase additional coverage equal to 16% of the amounts initially elected on each of the Purchase Option Dates without evidence of insurability if:

1. The Insured Person has not reached the Attained Age Limit;
2. The policy is in force on the Purchase Option Date,
3. Prior to age 70 this benefit will terminate if the Insured Person does not elect to purchase the additional amount on any two Purchase Option Dates;
4. On and after age 70, this benefit will terminate if the Insured Person does not elect to purchase the additional amount on any Purchase Option Date.

*O. Non-forfeiture Benefit – Shortened Benefit Period*

Once an Insured Person's coverage has been in effect for at least 3 full years, coverage will continue on a limited basis when it would otherwise have lapsed for nonpayment of premium with the following conditions:

1. the daily benefit amounts available will remain as they were at the time coverage would have lapsed under the policy;
2. the total benefit amount in force under this benefit will be equal to the amount of all premiums paid, excluding waived premiums, for all coverage combined including this benefit; and
3. the minimum benefit provided will be equal to 30 times the daily benefit in force at the time the Policy would have lapsed.

*P. Patient Advocacy and Medication Management Benefit*

The cost of unplanned visits, not more often than once each 6 months, from a person contracted by the insurer to a covered facility for the purpose of assessing living conditions in the facility and the care being received by the Insured Person will be paid if:

1. the insured is permanently confined to a facility covered in the policy, and
2. the insured is receiving the Care Coordination Benefit.

The actual charges incurred for services provided by a Nurse in helping the Insured Person to comply with his or her medication/treatment regimen will be paid by the insurer if the Insured Person is receiving the Care Coordination Benefit.

*Q. Rate Guarantee*

A 3 year rate guarantee is available at no extra charge. Rate guarantees in whole year increments are also available for an additional charge.

**3) Renewability**

These policy forms are guaranteed renewable for life, subject to the company's right to change premium rates.

**4) Applicability**

This filing applies to inforce insureds. The premium change will be applicable to the base rates. There will be no change to the original factors that are applied to the base rates.

**5) Morbidity**

The underlying claim costs are based on internal data derived from company experience. The claim costs represent best estimate values and do not include an explicit provision for moderately adverse conditions.

The original morbidity assumptions were based on data from Milliman USA's 1997 LTC Guidelines and available internal experience. Claim cost modifiers were developed, based on data from Milliman USA and available internal experience, to reflect the effect of underwriting on the ultimate claim costs and varied by marital status, issue age and benefit period.

As shown in the enclosed Exhibit II, the projected lifetime Actual to Expected Incurred Claims is 196%. So the current assumption for morbidity is 96% higher than used in pricing. This exceeds the moderately adverse conditions assumption in the original pricing, which was 10%.

The current morbidity assumption used in this rate increase filing is consistent with the assumption the Company has used for currently marketed policy forms.

**6) Off-Claim Mortality**

The 1983 GAM mortality table, with select factors based on company experience, was used for projecting future mortality.

The original total in-force mortality assumptions were the ultimate mortality rates of the 1983 Individual Annuitant Mortality Table adjusted by selection factors.

As shown in the enclosed Exhibit II, the projected lifetime Actual to Expected Earned Premiums is 109%, so actual mortality rate and/or lapse rate has been smaller than assumed in the original pricing; however, the overall result of mortality and persistency has been within the moderately adverse conditions assumption in the original pricing.

**7) Persistency**

Voluntary lapse rates are based on Company experience and vary by duration and issue age. Different lapse rates are assumed based on inflation option and marital discount.

**8) Expenses**

Expenses have not been explicitly projected. It is assumed that the originally filed expense assumptions remain appropriate.

**9) Marketing**

These policy forms were marketed by agents to individuals 18 years and older. In addition, employers, associations, or affinity groups were accepted for group sponsored rates under this individual policy. Members and/or employees of such groups, employees of group members, and anyone who is at least 18 years of age and who is related to group members and employees of group members by blood, marriage, or domestic relationship can be included.

**10) Policy Design**

Policy design features have been taken into consideration. Benefit provisions, exclusions, elimination periods, benefit periods, number of units, benefit growth, etc. have been accounted for either in the development of claim costs or projection model formulas.

**11) Underwriting**

These policy forms were underwritten with the use of various underwriting tools in addition to the application, which may have included medical records, an attending physician's statement, telephone interview and/or face-to-face assessment. The effect of underwriting has been incorporated into the projection.

**12) Claims Adjudication Practice**

No significant changes to the standard operating practices of the Claims Department have been necessary to date nor are any changes expected to be necessary in the future. The claim adjudication staff has maintained a consistently high degree of expertise, experience, and performance over the life of these policy forms and this is expected to continue in the future. Therefore, special adjustments due to claim adjudication practice have not been incorporated into the projection.

**13) Premiums**

Premiums vary based on original issue age, rate class, and benefit options selected.

**14) Issue Age Range**

Applicants age 18 years and older were eligible for all elimination periods and benefit periods.



**15) Area Factors**

Area factors are not used for these products.

**16) Average Annual Premium**

Before increase: \$1,661. After first increase: \$1,910. After second increase: \$2,197.

**17) Premium Modalization Rules**

Modal factors which are applied to the annual premium are no greater than as follows:

Annual	1.000
Semi-annual	0.520
Quarterly	0.265
Monthly	0.090

**18) Claim Liability and Reserve**

The present value of amounts not yet due is calculated for all open claims using termination rates derived from company experience. The resulting reserve is adjusted by factors based on age at incurral, gender, and benefit period developed from company experience. The interest rate varies by year of incurral. The incurred but not reported and in course of settlement reserves are calculated based on the development of incurred claims by month of incurral, based on internal Company data. The claim reserves underlying the incurred claims in the projection are consistent with the reserves reported in Exhibits 6 and 8 of the Company's financial statement.

**19) Active Life Reserve**

Active life reserves have not been used in this rate filing to demonstrate compliance with the minimum loss ratio requirement. The inclusion of active life reserves would result in a larger justifiable rate increase based on loss ratios and actual-to-expected projections.

**20) Trend Assumptions**

As this is not medical insurance, we have not included any explicit medical cost trends in the projections.

**21) Anticipated Loss Ratio**

The original anticipated lifetime loss ratio for these policy forms was 60%.

**22) Distribution of Business**

The distribution of in-force policies by issue age, benefit period, elimination period and benefit increase option are:

**By Issue Age**

Issue Age Band	% of Policies
0 to 59	48.7%
60 to 64	26.8%
65 to 69	16.2%
70 to 74	6.6%
75 to 79	1.6%
80+	0.1%

**By Elimination Period**

Elimination Period	% of Policies
30 days or less	5.5%
60 days	4.9%
90 days	87.5%
Over 90 days	2.1%

**By Maximum Benefit Period**

Benefit Period	% of Policies
2 years or less	5.3%
3 years	33.8%
4 years	29.1%
5 years	14.5%
Unlimited	17.3%

**By Benefit Increase Option**

Increase Option	% of Policies
None	40.1%
Simple	20.6%
Compound	39.3%

**23) Margin for Moderately Adverse Conditions**

The margin included in the original pricing of these policy forms was the greater of a 10% increase in morbidity, 10% decrease in mortality or 10% decrease in lapses. Actual historical experience combined with revised assumptions for morbidity and persistency have resulted in lifetime expected loss ratios significantly greater than those anticipated at the time of original pricing. The enclosed Exhibit II shows that the projected lifetime Actual to Expected Incurred Claims is much greater than the 110% level of morbidity included under adverse conditions. The current margin for moderately adverse conditions is a 10% increase in expected morbidity.

The proposed rate increase is less than that justified by the 58/85 loss ratio standard in the rate stability regulations. As such, there is no margin for adverse experience in the filing exhibits, unless specifically requested and noted. The rate increase we are requesting was determined by a Gross Premium Valuation analysis, which is why we are requesting considerably less increase than the rate stability regulations would require.

**24) Experience on the Form**

The enclosed Exhibit I displays calendar year historical experience as well as projected experience both with and without the proposed rate increase with June 30, 2017 as the break point between historical actual and projected future values. Exhibit II displays that same experience by policy year duration and includes an actual to expected analysis. These exhibits include the experience of all policies of these policy forms regardless of issue date.

The enclosed Exhibit I shows that the 58/85 test is satisfied using the original expected pricing loss ratio of 60% both without a margin for moderately adverse conditions and with a 10% margin for future adverse claims experience.

See Exhibit I for nationwide calendar year historical experience through June 30, 2017, as well as projected experience thereafter both with and without the proposed rate.

See Exhibit II for nationwide actual-to-expected experience by duration where 'actual' experience includes historical experience through June 30, 2017. Historical Incurred Claims reflect claim payment runoff through October 31, 2017 plus the claim reserve estimate as of October 31, 2017 (as described in Section 18 above).

**25) Interest Rate**

The interest rate used to discount the values displayed in all exhibits is 4.5%.

**26) History of Rate Adjustments**

A 15% rate increase was approved in 2017 and implemented in 2018.

**27) Number of Policyholders**

As of September 30, 2017, the number of policies that will be affected by this increase is:

	Insureds	Annualized Premium
Maryland	210	\$349,950
Nationwide	19,247	\$31,973,474

**28) Proposed Effective Date**

The increase will be implemented within 3 months following approval after fulfillment of all statutory and contractual requirements.

**29) Actuarial Certification**

I certify that to the best of my knowledge and judgment, this premium rate filing complies with the applicable laws of the state of Maryland, with the rules of the Department of Insurance, and with Actuarial Standard of Practice Nos. 8 and 18. Going forward, the

Company will continue to monitor the experience of this block and reserves the right to take additional rate action if currently unanticipated future deterioration thereof justifies.

A handwritten signature in blue ink, appearing to read "Brad Rokosh".

Brad Rokosh, ASA, MAAA  
Director, Actuarial, LTC Margin Analytics

December 20, 2018

**Exhibit I**  
**Transamerica Life Insurance Company**

**Unipro Series**

**Nationwide Experience Adjusted to Maryland-Specific Rate History**

Year	Earned Premium		Incurred Claims Actual Past & Projected Future	Loss Ratios Excluding Change in ALR			
	Actual Past & Projected Future w/o Proposed Rate Increase	Actual Past & Projected Future w/ Proposed Rate Increase		Actual w/o Rate Increase	Actual w/ Rate Increase	PV Actual Cumulative w/o Rate Increase	PV Actual Cumulative w/ Rate Increase
2002	109,440	109,440	0	0.0%	0.0%	0.0%	0.0%
2003	3,530,036	3,530,036	3,366	0.1%	0.1%	0.1%	0.1%
2004	13,279,324	13,279,324	318,652	2.4%	2.4%	1.9%	1.9%
2005	17,275,032	17,275,032	1,337,222	7.7%	7.7%	4.8%	4.8%
2006	16,851,018	16,851,018	1,371,413	8.1%	8.1%	5.8%	5.8%
2007	16,386,140	16,386,140	3,966,678	24.2%	24.2%	10.0%	10.0%
2008	16,327,933	16,327,933	3,312,859	20.3%	20.3%	11.8%	11.8%
2009	16,672,032	16,672,032	3,864,307	23.2%	23.2%	13.5%	13.5%
2010	18,323,122	18,323,122	4,309,187	23.5%	23.5%	14.8%	14.8%
2011	25,708,302	25,708,302	4,347,970	16.9%	16.9%	15.2%	15.2%
2012	33,005,134	33,005,134	4,963,214	15.0%	15.0%	15.1%	15.1%
2013	35,184,737	35,184,737	9,451,121	26.9%	26.9%	16.8%	16.8%
2014	34,499,550	34,499,550	11,064,535	32.1%	32.1%	18.5%	18.5%
2015	33,672,535	33,672,535	11,471,105	34.1%	34.1%	20.0%	20.0%
2016	32,886,641	32,886,641	13,773,815	41.9%	41.9%	21.9%	21.9%
2017Q12	16,101,946	16,101,946	7,689,654	47.8%	47.8%	22.9%	22.9%
2017Q34	24,037,730	24,037,730	14,034,910	58.4%	58.4%	24.7%	24.7%
2018	31,341,123	31,486,196	20,824,209	66.4%	66.1%	27.3%	27.3%
2019	33,741,500	37,735,462	23,614,867	70.0%	62.6%	29.9%	29.7%
2020	33,829,043	43,307,908	26,663,980	78.8%	61.6%	32.6%	31.9%
2021	32,784,982	43,358,139	29,753,320	90.8%	68.6%	35.4%	34.1%
2022	31,717,377	41,946,231	32,657,525	103.0%	77.9%	38.3%	36.5%
2023	30,626,174	40,503,116	35,478,947	115.8%	87.6%	41.2%	38.9%
2024	29,509,761	39,026,659	38,382,434	130.1%	98.3%	44.2%	41.4%
2025	28,368,875	37,517,838	41,103,697	144.9%	109.6%	47.2%	43.9%
2026	27,204,304	35,977,693	43,631,675	160.4%	121.3%	50.3%	46.5%
2027	26,018,262	34,409,152	46,115,196	177.2%	134.0%	53.3%	49.0%
2028	24,813,010	32,815,206	48,584,814	195.8%	148.1%	56.4%	51.6%
2029	23,591,548	31,199,822	50,892,971	215.7%	163.1%	59.5%	54.2%
2030	22,357,474	29,567,759	52,711,594	235.8%	178.3%	62.5%	56.7%
2031	21,116,258	27,926,252	53,943,140	255.5%	193.2%	65.4%	59.2%
2032	19,872,874	26,281,875	55,328,446	278.4%	210.5%	68.3%	61.6%
2033	18,629,383	24,637,358	56,265,336	302.0%	228.4%	71.1%	64.0%
2034	17,391,375	23,000,093	56,905,721	327.2%	247.4%	73.8%	66.3%
2035	16,164,696	21,377,811	57,146,899	353.5%	267.3%	76.4%	68.5%
2036	14,955,638	19,778,831	56,938,712	380.7%	287.9%	78.9%	70.7%
2037	13,770,505	18,211,493	56,189,826	408.0%	308.5%	81.3%	72.7%
2038	12,615,818	16,684,419	54,955,070	435.6%	329.4%	83.5%	74.6%
2039	11,498,252	15,206,438	53,345,769	463.9%	350.8%	85.5%	76.3%
2040	10,424,345	13,786,196	51,351,258	492.6%	372.5%	87.4%	78.0%
2041	9,399,726	12,431,137	49,051,401	521.8%	394.6%	89.2%	79.5%
2042	8,429,988	11,148,659	46,487,742	551.5%	417.0%	90.8%	80.8%
2043	7,519,267	9,944,230	43,740,106	581.7%	439.9%	92.2%	82.1%
2044	6,670,594	8,821,861	40,860,371	612.5%	463.2%	93.5%	83.2%
2045	5,885,673	7,783,802	37,922,464	644.3%	487.2%	94.6%	84.2%
2046	5,165,059	6,830,791	34,980,171	677.2%	512.1%	95.7%	85.1%
2047	4,508,070	5,961,923	32,107,387	712.2%	538.5%	96.6%	85.8%
2048	3,913,181	5,175,182	29,298,862	748.7%	566.1%	97.3%	86.5%
2049	3,378,268	4,467,759	26,572,870	786.6%	594.8%	98.0%	87.1%
2050	2,900,749	3,836,241	23,950,442	825.7%	624.3%	98.6%	87.6%
2051	2,477,608	3,276,637	21,461,569	866.2%	655.0%	99.1%	88.1%
2052	2,105,354	2,784,331	19,135,233	908.9%	687.2%	99.6%	88.5%
2053	1,780,146	2,354,243	16,970,896	953.3%	720.9%	100.0%	88.8%
2054	1,498,036	1,981,153	14,967,590	999.1%	755.5%	100.3%	89.1%
2055	1,254,883	1,659,583	13,123,285	1045.8%	790.8%	100.5%	89.3%
2056	1,046,617	1,384,151	11,439,170	1093.0%	826.4%	100.8%	89.5%
2057	869,215	1,149,537	9,922,764	1141.6%	863.2%	101.0%	89.7%
2058	718,879	950,717	8,566,414	1191.6%	901.0%	101.1%	89.8%
2059	592,152	783,122	7,354,401	1242.0%	939.1%	101.2%	89.9%
2060	485,799	642,469	6,275,670	1291.8%	976.8%	101.3%	90.0%
2061	396,972	524,995	5,320,829	1340.4%	1013.5%	101.4%	90.1%
2062	323,124	427,332	4,486,567	1388.5%	1049.9%	101.5%	90.1%
2063	262,022	346,524	3,764,129	1436.6%	1086.3%	101.6%	90.2%
2064	211,657	279,917	3,136,755	1482.0%	1120.6%	101.6%	90.2%
2065	170,342	225,278	2,599,016	1525.8%	1153.7%	101.6%	90.3%
2066	136,645	180,713	2,141,118	1566.9%	1184.8%	101.7%	90.3%
2067	109,266	144,505	1,752,879	1604.2%	1213.0%	101.7%	90.3%
2068	87,116	115,210	1,430,107	1641.6%	1241.3%	101.7%	90.3%
PV Past	212,037,356	212,037,356	48,474,221	22.9%	22.9%		
PV Future	198,495,777	250,224,670	369,052,306	185.9%	147.5%		
PV Lifetime	410,533,133	462,262,026	417,526,527	101.7%	90.3%		

**58/85 Test**

Row	Description	Total
(1)	PV Past Total Premiums Including Rate Increases:	212,037,356
(2)	<u>PV Past Premiums on Original Rate Basis:</u>	<u>212,037,356</u>
(3)	PV Past Premiums Attributable to Rate Increases: (1) minus (2)	0
(4)	PV Future Total Premiums Including Rate Increases:	250,224,670
(5)	<u>PV Future Premiums on Original Rate Basis:</u>	<u>176,460,346</u>
(6)	PV Future Premiums Attributable to Rate Increases: (4) minus (5)	73,764,324
(7)	PV Past Incurred Claims	48,474,221
(8)	<u>PV Future Incurred Claims</u>	<u>369,052,306</u>
(9)	Total Incurred Claims: (7) + (8)	417,526,527
(10)	0.58 x [(2) + (5)] + 0.85 x [(3) + (6)] =	288,028,342
(11)	Test: Is (9) >= (10)?	True

**Exhibit LMD**  
**Transamerica Life Insurance Company**

**Uniproduct Series**

**Nationwide Experience Adjusted to Maryland-Specific Rate History**

Year	Number of Lives	Earned Premium		Incurred Claims	Loss Ratios Excluding Change in ALR			
		Actual Past & Projected Future w/o Proposed Rate Increase	Actual Past & Projected Future w/ Proposed Rate Increase	Actual Past & Projected Future	Actual w/o Rate Increase	Actual w/ Rate Increase	PV Actual Cumulative w/o Rate Increase	PV Actual Cumulative w/ Rate Increase
2004	20	39,680	39,680	0	0.0%	0.0%	0.0%	0.0%
2005	28	63,345	63,345	0	0.0%	0.0%	0.0%	0.0%
2006	26	62,103	62,103	0	0.0%	0.0%	0.0%	0.0%
2007	25	59,139	59,139	199	0.3%	0.3%	0.1%	0.1%
2008	49	75,595	75,595	0	0.0%	0.0%	0.1%	0.1%
2009	110	125,765	125,765	0	0.0%	0.0%	0.0%	0.0%
2010	134	145,513	145,513	0	0.0%	0.0%	0.0%	0.0%
2011	219	313,045	313,045	193,540	61.8%	61.8%	19.9%	19.9%
2012	261	399,905	399,905	0	0.0%	0.0%	14.3%	14.3%
2013	250	380,894	380,894	0	0.0%	0.0%	11.4%	11.4%
2014	234	369,550	369,550	16,015	4.3%	4.3%	10.2%	10.2%
2015	222	363,248	363,248	318,486	87.7%	87.7%	20.4%	20.4%
2016	215	355,515	355,515	317,053	89.2%	89.2%	27.9%	27.9%
2017Q12	104	174,852	174,852	0	0.0%	0.0%	26.5%	26.5%
2017Q34	159	260,641	260,641	89,639	34.4%	34.4%	27.0%	27.0%
2018	208	338,040	339,604	126,969	37.6%	37.4%	27.8%	27.8%
2019	203	363,766	406,825	140,652	38.7%	34.6%	28.6%	28.4%
2020	198	364,923	467,174	158,756	43.5%	34.0%	29.6%	28.8%
2021	194	353,989	468,150	179,353	50.7%	38.3%	30.8%	29.5%
2022	189	342,931	453,526	201,668	58.8%	44.5%	32.3%	30.5%
2023	185	331,586	438,523	225,665	68.1%	51.5%	33.9%	31.6%
2024	180	320,427	423,764	253,844	79.2%	59.9%	35.7%	33.0%
2025	175	308,980	408,627	283,362	91.7%	69.3%	37.7%	34.6%
2026	170	297,249	393,111	314,278	105.7%	79.9%	39.8%	36.3%
2027	165	285,423	377,472	347,828	121.9%	92.1%	42.2%	38.2%
2028	159	273,310	361,453	381,669	139.6%	105.6%	44.6%	40.3%
2029	154	260,916	345,061	412,836	158.2%	119.6%	47.2%	42.4%
2030	148	248,257	328,320	438,954	176.8%	133.7%	49.8%	44.6%
2031	143	235,390	311,303	461,810	196.2%	148.3%	52.4%	46.8%
2032	137	222,363	294,075	486,243	218.7%	165.3%	55.1%	49.0%
2033	130	209,208	276,677	507,980	242.8%	183.6%	57.7%	51.2%
2034	124	195,982	259,186	527,204	269.0%	203.4%	60.4%	53.5%
2035	118	182,743	241,677	543,984	297.7%	225.1%	63.0%	55.7%
2036	111	169,557	224,240	558,690	329.5%	249.1%	65.6%	57.9%
2037	104	156,489	206,957	566,616	362.1%	273.8%	68.2%	60.0%
2038	97	143,620	189,937	566,925	394.7%	298.5%	70.6%	62.1%
2039	91	131,030	173,287	562,075	429.0%	324.4%	72.9%	64.1%
2040	84	118,796	157,107	550,932	463.8%	350.7%	75.1%	65.9%
2041	77	107,018	141,531	536,760	501.6%	379.3%	77.1%	67.6%
2042	71	95,784	126,674	517,826	540.6%	408.8%	79.0%	69.3%
2043	64	85,176	112,646	492,953	578.7%	437.6%	80.7%	70.7%
2044	58	75,263	99,535	464,046	616.6%	466.2%	82.3%	72.1%
2045	52	66,098	87,415	433,808	656.3%	496.3%	83.7%	73.3%
2046	47	57,705	76,314	403,712	699.6%	529.0%	84.9%	74.3%
2047	42	50,084	66,237	373,851	746.4%	564.4%	86.0%	75.3%
2048	37	43,221	57,159	344,819	797.8%	603.3%	87.0%	76.1%
2049	33	37,089	49,050	317,182	855.2%	646.6%	87.9%	76.9%
2050	29	31,655	41,864	290,762	918.5%	694.5%	88.7%	77.6%
2051	25	26,878	35,546	265,138	986.5%	745.9%	89.4%	78.1%
2052	22	22,714	30,039	240,056	1056.9%	799.1%	89.9%	78.7%
2053	19	19,115	25,279	216,199	1131.1%	855.2%	90.5%	79.1%
2054	16	16,032	21,202	195,051	1216.6%	920.0%	90.9%	79.5%
2055	14	13,411	17,736	175,636	1309.6%	990.3%	91.3%	79.8%
2056	12	11,198	14,809	157,233	1404.1%	1061.7%	91.6%	80.1%
2057	10	9,339	12,350	139,914	1498.2%	1132.9%	91.9%	80.3%
2058	8	7,782	10,292	122,935	1579.7%	1194.5%	92.1%	80.6%
2059	7	6,483	8,574	107,590	1659.6%	1254.9%	92.3%	80.7%
2060	6	5,398	7,139	94,785	1755.8%	1327.6%	92.5%	80.9%
2061	5	4,493	5,942	83,122	1849.9%	1398.8%	92.7%	81.0%
2062	4	3,741	4,947	72,836	1947.1%	1472.3%	92.8%	81.1%
2063	3	3,114	4,119	63,762	2047.4%	1548.2%	92.9%	81.2%
2064	3	2,592	3,428	56,226	2169.3%	1640.3%	93.0%	81.3%
2065	2	2,157	2,852	49,900	2313.8%	1749.6%	93.0%	81.3%
2066	2	1,793	2,372	43,873	2446.2%	1849.7%	93.1%	81.4%
2067	1	1,489	1,969	38,429	2580.8%	1951.5%	93.1%	81.4%
2068	1	1,234	1,632	34,341	2783.0%	2104.4%	93.2%	81.5%

PV Past	1,937,683	1,937,683	512,833	26.5%	26.5%
PV Future	2,374,266	2,995,033	3,505,423	147.6%	117.0%
PV Lifetime	4,311,948	4,932,716	4,018,256	93.2%	81.5%

**58/85 Test**

Row	Description	Total
(1)	PV Past Total Premiums Including Rate Increases:	1,937,683
(2)	<u>PV Past Premiums on Original Rate Basis:</u>	<u>1,937,683</u>
(3)	PV Past Premiums Attributable to Rate Increases: (1) minus (2)	0
(4)	PV Future Total Premiums Including Rate Increases:	2,995,033
(5)	<u>PV Future Premiums on Original Rate Basis:</u>	<u>2,110,083</u>
(6)	PV Future Premiums Attributable to Rate Increases: (4) minus (5)	884,951
(7)	PV Past Incurred Claims	512,833
(8)	<u>PV Future Incurred Claims</u>	<u>3,505,423</u>
(9)	Total Incurred Claims: (7) + (8)	4,018,256
(10)	$0.58 \times [(2) + (5)] + 0.85 \times [(3) + (6)] =$	3,099,912
(11)	Test: Is (9) >= (10)?	True

**Exhibit II**  
**Transamerica Life Insurance Company**

**Uniproduct Series**

**Actual To Expected Lifetime Experience**

**Actual Nationwide Experience Through June 30, 2017 and Projected Experience Thereafter**

Duration	Actual				Expected			Actual to Expected		
	A	B	C	D	E	F	G	H=A/E	I=C/F	J=D/G
	Earned Premium @ Original Rate Level	Earned Premium Adjusted to Approved SC Rate History	Incurred Claims Excluding ALR Increase	Cumulative Loss Ratio Excluding ALR Increase	Earned Premium @ Original Rate Level	Incurred Claims Excluding ALR Increase	Cumulative Loss Ratio Excluding ALR Increase	Earned Premium	Incurred Claims Excluding ALR Increase	Cumulative Loss Ratio Excluding ALR Increase
1	40,134,732	40,134,732	930,222	2.3%	40,135,029	234,299	0.6%	100.0%	397.0%	397.0%
2	39,326,185	39,326,185	1,288,776	2.8%	38,017,260	728,254	1.2%	103.4%	177.0%	228.6%
3	37,784,906	37,784,906	1,677,531	3.3%	36,488,695	1,404,432	2.0%	103.6%	119.4%	163.2%
4	37,291,886	37,291,886	5,478,638	5.9%	35,203,841	2,258,389	3.0%	105.9%	242.6%	196.6%
5	36,984,255	36,987,238	3,875,194	6.7%	34,171,694	3,194,215	4.1%	108.2%	121.3%	164.5%
6	37,503,685	37,586,103	5,598,561	7.9%	33,256,683	4,139,158	5.2%	112.8%	135.3%	151.5%
7	35,306,384	35,695,554	7,703,623	9.5%	32,460,739	5,022,284	6.4%	108.8%	153.4%	149.2%
8	33,757,193	34,943,101	9,678,239	11.3%	31,633,722	5,834,399	7.5%	106.7%	165.9%	150.4%
9	32,985,299	35,069,196	9,131,737	12.6%	30,777,624	6,592,028	8.6%	107.2%	138.5%	145.5%
10	32,093,380	34,579,822	12,856,502	14.4%	29,893,584	7,339,759	9.8%	107.4%	175.2%	147.9%
11	31,253,396	33,817,024	15,705,196	16.6%	28,981,492	8,094,645	10.9%	107.8%	194.0%	152.2%
12	30,614,854	33,162,303	17,845,680	18.7%	28,043,892	8,936,490	12.0%	109.2%	199.7%	156.1%
13	31,280,037	33,768,976	22,956,182	21.4%	27,081,602	9,917,069	13.2%	115.5%	231.5%	162.5%
14	29,862,855	32,337,715	26,099,686	24.2%	26,096,324	11,031,581	14.4%	114.4%	236.6%	168.2%
15	27,883,657	30,697,806	28,883,283	27.0%	25,091,073	12,220,518	15.6%	111.1%	236.4%	172.8%
16	26,751,171	30,166,878	32,760,083	30.1%	24,067,008	13,494,909	17.0%	111.2%	242.8%	177.2%
17	25,734,974	29,465,370	36,905,732	33.3%	23,027,517	14,900,111	18.4%	111.8%	247.7%	181.1%
18	24,694,091	28,387,394	41,125,197	36.6%	21,974,703	16,400,513	19.8%	112.4%	250.8%	184.6%
19	23,628,681	27,172,690	44,697,645	40.0%	20,911,082	17,951,038	21.4%	113.0%	249.0%	187.5%
20	22,541,696	25,922,851	47,843,413	43.5%	19,839,548	19,502,720	22.9%	113.6%	245.3%	189.6%
21	21,435,287	24,650,561	51,262,317	47.0%	18,763,304	21,065,361	24.6%	114.2%	243.3%	191.2%
22	20,314,749	23,361,961	54,032,118	50.5%	17,685,819	22,646,963	26.2%	114.9%	238.6%	192.3%
23	19,182,880	22,060,312	56,190,052	53.9%	16,610,755	24,275,358	28.0%	115.5%	231.5%	192.7%
24	18,044,529	20,751,209	57,988,424	57.2%	15,542,155	25,953,823	29.7%	116.1%	223.4%	192.6%
25	16,905,586	19,441,423	59,559,204	60.5%	14,484,413	27,675,735	31.5%	116.7%	215.2%	191.9%
26	15,770,983	18,136,630	61,241,611	63.7%	13,442,101	29,286,333	33.4%	117.3%	209.1%	191.0%
27	14,645,001	16,841,751	62,156,954	66.9%	12,419,818	30,740,190	35.2%	117.9%	202.2%	189.9%
28	13,533,800	15,563,870	62,256,021	69.8%	11,421,969	32,095,756	37.1%	118.5%	194.0%	188.5%
29	12,444,027	14,310,631	61,725,190	72.7%	10,452,907	33,154,172	38.9%	119.0%	186.2%	186.8%
30	11,382,424	13,089,787	60,800,007	75.3%	9,516,916	33,796,472	40.7%	119.6%	179.9%	185.1%
31	10,355,785	11,909,153	59,814,091	77.8%	8,618,018	34,147,478	42.4%	120.2%	175.2%	183.5%
32	9,369,645	10,775,092	58,192,433	80.2%	7,759,852	34,149,833	44.1%	120.7%	170.4%	181.8%
33	8,429,591	9,694,030	55,809,700	82.3%	6,945,277	33,808,817	45.7%	121.4%	165.1%	180.2%
34	7,540,728	8,671,837	52,915,196	84.3%	6,176,712	33,290,315	47.2%	122.1%	159.0%	178.6%
35	6,707,107	7,713,173	49,793,142	86.0%	5,456,213	32,497,756	48.6%	122.9%	153.2%	177.1%
36	5,931,514	6,821,241	46,736,990	87.6%	4,785,414	31,363,685	49.9%	123.9%	149.0%	175.7%
37	5,215,311	5,997,608	43,492,238	89.1%	4,165,461	29,964,657	51.1%	125.2%	145.1%	174.3%
38	4,559,001	5,242,851	40,002,476	90.3%	3,596,641	28,270,013	52.2%	126.8%	141.5%	173.1%
39	3,962,374	4,556,730	36,476,566	91.4%	3,078,770	26,363,502	53.1%	128.7%	138.4%	172.0%
40	3,424,509	3,938,185	33,041,532	92.4%	2,611,310	24,213,756	54.0%	131.1%	136.5%	171.1%
41	2,943,788	3,385,356	29,811,270	93.2%	2,193,359	21,863,823	54.7%	134.2%	136.3%	170.3%
42	2,517,416	2,895,029	26,705,549	93.9%	1,823,589	19,453,423	55.4%	138.0%	137.3%	169.6%
43	2,142,143	2,463,464	23,690,980	94.5%	1,499,955	17,066,628	55.9%	142.8%	138.8%	169.1%
44	1,814,241	2,086,377	20,916,290	95.0%	1,219,881	14,766,081	56.3%	148.7%	141.7%	168.7%
45	1,529,714	1,759,171	18,389,634	95.4%	980,392	12,607,831	56.7%	156.0%	145.9%	168.3%
46	1,284,544	1,477,226	16,096,122	95.8%	588,671	7,853,521	56.9%	218.2%	205.0%	168.4%
47	1,074,479	1,235,651	14,021,052	96.1%	460,062	6,518,836	57.1%	233.6%	215.1%	168.4%
48	895,418	1,029,731	12,126,615	96.4%	354,711	5,348,290	57.2%	252.4%	226.7%	168.4%
49	743,515	855,042	10,460,369	96.6%	269,499	4,336,864	57.3%	275.9%	241.2%	168.5%
50	615,261	707,550	8,979,423	96.7%	201,454	3,460,092	57.4%	305.4%	259.5%	168.5%
51	507,449	583,567	7,666,387	96.9%	147,855	2,723,463	57.5%	343.2%	281.5%	168.6%
52	417,167	479,742	6,508,302	97.0%	106,253	2,106,668	57.5%	392.6%	308.9%	168.7%
53	341,818	393,090	5,485,536	97.1%	74,507	1,598,803	57.5%	458.8%	343.1%	168.7%
54	279,148	321,020	4,611,145	97.2%	50,764	1,197,726	57.6%	549.9%	385.0%	168.8%
55	227,177	261,253	3,863,908	97.2%	33,425	858,025	57.6%	679.7%	450.3%	168.9%
56	179,195	206,075	3,132,797	97.3%	21,140	608,018	57.6%	847.7%	515.2%	168.9%
57	134,645	154,842	2,421,882	97.3%	12,734	418,192	57.6%	1057.4%	579.1%	168.9%
58	94,842	109,068	1,722,048	97.3%	7,231	278,262	57.6%	1311.5%	618.9%	169.0%
59	66,365	76,319	1,184,282	97.4%	3,821	189,726	57.6%	1737.0%	624.2%	169.0%
60+	160,260	184,299	2,564,650	97.4%	3,049	246,724	57.6%	5255.3%	1039.5%	169.0%
PV Lifetime	503,414,829	533,733,680	519,767,646	97.4%	460,983,923	265,577,736	57.6%	109.2%	195.7%	169.0%