## William P. Bigelow, FSA, MAAA

September 27, 2019
Maryland Insurance Administration
200 St. Paul Place, Suite 2700, Baltimore, MD 21202
Re: Group long-term policy G.LTC1697 (including GCLTCAARP-06-FC in Maryland) Issued by Metropolitan Life Insurance Company (MetLife)

Attached is the filing for the captioned forms. This letter provides an overview of the filing and notes on some of the content. After a careful review of earlier filings, we have endeavored to reflect in this filing additional content based on previous questions submitted by your Department. Hopefully, this will make your review easier and more effective.

## Filing Overview

In addition to this overview, this filing consists of the Actuarial Memorandum and Attachments on specific aspects of the Maryland Administrative Code as well as supporting data based on earlier reviews. These documents are outlined and summarized here for your convenience.

| Title | Description |
| :---: | :---: |
| Actuarial Memorandum Exhibit I-A | Lifetime Loss Ratio ("LLR") <br> - Nationwide experience <br> - Without/with proposed rate increase of $7.06 \%$ <br> - Weighted average statutory rate $4.00 \%$ <br> LLR without rate increase - 109.3\% <br> LLR with rate increase - 106.1\% |
| Exhibit II-A | Demonstration of rate action meeting Rate Stability (58/85) limitations |
| Exhibit I-B | Lifetime Loss Ratio ("LLR") <br> - Maryland experience <br> - Without/with proposed rate increase of $7.06 \%$ <br> - Weighted average statutory rate $4.00 \%$ <br> LLR without rate increase - 103.7\% <br> LLR with rate increase - 100.9\% |
| Exhibit II-B | Demonstration of rate action meeting Rate Stability $(58 / 85)$ limitations |
| Review of Prior Correspondence | Attachment 1 - Assumptions Summary <br> Attachment $2-\mathrm{A} / \mathrm{E}$ Ratios (Policy Duration) <br> Attachment 3 - A/E Ratios (Calendar Year) <br> Attachment 4 - A/E Ratios (Lapse, Mortality, Incidence, Claim Termination) |

## Rationale for the Rate Increase Request

Exhibit I demonstrates that the combination of historical and projected experience using the most recent Best Estimate assumptions is clearly far beyond the expected loss ratio using the original pricing assumptions. Attachments 2 and 3 support the development of the experience by analyzing the Actual-toExpected Ratios by Calendar Year and Policy Duration.

Attachment 1 compares the development of the changes in assumptions from the time of original pricing to the latest Experience Study. Generally, worse than expected morbidity and lower decrements are the primary reasons for the rate action.

## Assumption Setting and Review

All projection assumptions are based on the Experience Study performed each year. In general, the assumptions used in all projections are those that reproduce historical experience within a non-material degree of tolerance. Attachment 4 shows the Actual-to-Expected Ratios comparing the latest Best Estimate assumptions with the set of actual experience for Lapse, Mortality, Incidence, and Claim Termination.

Some actuarial judgment is used in areas where credibility or trending requires adjustment. In any case, the methodology, results, conclusions and use are prescribed by MetLife internal Standards and Actuarial Standards of Practice and are reviewed and approved by MetLife management, internal auditors, and external auditors.

## Calculation of the Rate Request

MetLife's evaluation of the Justifiable Rate Increase ("JRI") uses the industry standard "If Knew" basis. This method calculates the premium needed at time zero to achieve the original loss ratio if all current experience had been known at inception. Of course, the Company cannot retroactively charge such premiums, so all historical losses stemming from past premium shortfalls are taken by the Company.

## Additional Notes

MetLife requests the rate action based on deviations from anticipated experience outlined in the Actuarial Memorandum, the Addendum, and the supporting attachments. Lifetime Loss Ratios exceed all minimum requirements in Maryland as well as the application of rate stability standards even at the full requested rate action. In addition, though Maryland-only experience is not necessarily credible, the Maryland LLR's still meet the standards above at the full rate action level.

Despite the rate action requested, the experience of the block does not fully return to pricing levels. In general, the rate action restricts consideration of recovering historical losses by focusing on lifetime experience. We will continue, of course, to analyze and adjust experience assumptions and reserve the right to update those in the future along with requesting any resulting changes in premium rates.

The actuarial justification for experience analysis and projections, including assumptions and methods, are reflective of the Code of Professional Conduct and applicable Actuarial Standards of Practice. I am a Fellow 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 and to render the actuarial opinion contained herein.

Thank you for your consideration. I look forward to hearing from you.
Sincerely,


William P. Bigelow, FSA, MAAA
Vice President and Actuary, Metropolitan Life Insurance Company

# METROPOLITAN LIFE INSURANCE COMPANY 

New York, NY
Actuarial Memorandum for AARP Group Policy
September 27, 2019
This actuarial memorandum pertains to long-term care insurance provided under group policy issued to cover eligible members of the American Association of Retired Persons ("AARP") and their spouses (including domestic partners) who meet the eligibility requirements specified in the policy.

## Policy Forms

The premium rate schedule increase for which we are seeking approval will apply to the following certificate forms approved by your Department and that were issued under the group long-term care policy G.LTC1697 (sitused in District of Columbia):

- GCLTCAARP-06-FC


## 1. Purpose of Filing

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

## 2. Description of Benefits

There are two options available: The Comprehensive Monthly Reimbursement Plan and the Facilityonly Monthly Reimbursement Plan. Both plans provide benefits for Primary Services equal to the lesser of:
a. the actual expenses incurred for the receipt of one month's services
b. the Monthly Benefit Amount ("MBA") times a percentage that varies based on the site of care

MBA = Daily Benefit Amount ("DBA") times the number of days in the month.

## Reimbursement Percentages by Site of Care

I. Nursing Home, Hospice, or Assisted Living Facility - 100\%
II. Home Health Care (for Comprehensive Coverage Option only) - optional 50\%, 80\% or $100 \%$
III. Informal Care (for Comprehensive Coverage Option only) - 50\% of the selected Home Health Care coverage

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## Respite Service

Both plans reimburse the actual incurred expenses for Respite Services provided by a Formal or Informal Caregiver, up to the DBA corresponding to the type of service. Benefits are limited to 30 days per calendar year.

## 3. Renewability

These policy forms are guaranteed renewable for life.

## 4. Applicability

This filing is applicable to the group long-term care insurance certificates shown on the first page issued to AARP from March 1, 2007 to March 1, 2008 with a group policy situs within District of Columbia.

We will only implement a premium rate schedule increase for certificates issued to residents of your state after we have received approval from your Department. We will implement the amount of the increase approved by your Department irrespective of the amount of the increase approved by the District of Columbia (where the long-term care insurance policy issued to AARP was sitused). These policy forms are no longer being marketed to AARP members and spouses.

## 5. Actuarial Assumptions

a. Expected Claim Costs are the product of attained age frequency rates and continuance curves, adjusted by utilization factors and underwriting selection factors based on actual experience through June 30, 2017.
b. Voluntary Termination Rates vary by duration as developed from actual experience through June 30, 2017 and are shown in the following table:

Voluntary Termination Rates

| Policy Duration | Lapse Rate |
| :---: | :---: |
| 1 | $5.50 \%$ |
| 2 | $3.50 \%$ |
| 3 | $2.50 \%$ |
| 4 | $2.00 \%$ |
| 5 | $1.50 \%$ |
| 6 | $1.25 \%$ |
| 7 | $0.90 \%$ |
| $8+$ | $0.80 \%$ |

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In the year of rate increase implementation, it is assumed that an additional $1.1 \%$ of policies lapse and there is $0.3 \%$ net reduction to premiums and benefits due to benefit downgrades. There is no adverse selection assumed due to the additional lapse rates.
c. Mortality $88 \%$ of Annuity 2000 Basic Table with selection consistent with experience.
d. Expenses Expenses have not been explicitly projected. It is assumed that the originally filed expense assumptions remain appropriate.

The above assumptions are based on actual inforce experience of MetLife and are deemed reasonable for the group policy form, including certificate forms issued under such group policy. In establishing the assumptions described in this section, the policy design, underwriting, and claims adjudication practices for the above-referenced policy forms were taken into consideration.

The assumptions described above were developed from the actual historical experience on these forms and supplemented, as needed, based on the experience of other forms. The projections contained in this actuarial memorandum are based on the best estimate assumptions, as described above, except the projections include a margin for moderately adverse experience equal to $5 \%$ of projected future incurred claims.

## 6. Marketing Method

These policy forms were issued to provide coverage to eligible AARP members and spouses. The primary method of marketing was direct mail. Enrollment programs hosted by local AARP chapter were also part of the marketing method for this certificate form.

## 7. Underwriting Description

Certain health information was required of applicants at the time of enrollment, including answering questions on the enrollment form regarding medical history, supplemented by contacting health care providers for medical records, as well as telephone and face-to-face interviews as needed.

## 8. Premiums

Premium rates varied based upon the age of the insured at issue and the particular benefit variations selected. A preferred risk discount was applied to insured persons that qualified based on underwriting criteria. If an insured was married or had a domestic partner that did not purchase coverage, then a marital discount was applied. If two or more members of the same household purchased coverage, then a household discount was applied. Additionally, annual premium was equal to monthly premium times 11.04 (i.e., $8 \%$ discount off monthly) and quarterly premium was equal to monthly premium times 2.94 (i.e., $2 \%$ discount off monthly).

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## 9. Issue Age Range

The issue age is 18 and over.

## 10. Area Factors

Area factors are not used for this product.

## 11. Reserves

Active life reserves have not been used in this rate increase analysis. Claim reserves as of December 31, 2017 have been discounted to the incurral date of each respective claim and included in historical incurred claims. Incurred but not reported reserve balances as of December 31, 2017 have been allocated to a calendar year of incurral and included in historical incurred claims.

## 12. Trend Assumptions

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

## 13. Past and Future Policy Experience

Nationwide experience and specific experience for those certificates issued in Maryland are shown in Exhibit I-A and Exhibit I-B, respectively.

Historical experience is shown by claim incurral year. Claim payments and reserves were discounted to the mid-point of the year of incurral at the weighted average maximum valuation interest rate for contract reserves which is $4.00 \%$. Incurred but not reported reserves were allocated based on a historical analysis of claim development pattern.

Annual loss ratios are calculated, with and without interest, as incurred claims divided by earned premiums.

A lifetime loss ratio as of December 31, 2017 is calculated as the sum of accumulated past experience and discounted future experience where accumulation and discounting occur at the weighted average maximum valuation interest rate for contract reserves, which is $4.00 \%$.

## 14. Projected Earned Premiums and Incurred Claims

Earned premiums for projection years 2018 through 2098 are developed by multiplying each prior period's earned premium (starting with December 31, 2017 actual earned premium) by a persistency factor. For a year in which the rate increase is effective, the earned premium prior to the increase is multiplied by 1 plus the rate increase percent and an effectiveness factor.

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Incurred claims for each projection year combine the impact of incidence rates, claim continuance rates and utilization factors by the policy benefits on a seriatim basis.

Present and accumulated values in the lifetime projections in Exhibit I and II are determined at the average maximum valuation interest rate for contract reserves applicable to LTC business issued in the years in which the applicable business of this filing were issued. The maximum valuation interest rate averages $4.00 \%$.

The assumptions used in Exhibit I and II projections are developed from the company's LTC insurance experience, plus a margin for moderately adverse experience.

Projections in Exhibit II provide a demonstration that the sum of the accumulated value of incurred claims without the inclusion of active life reserves, and the present value of future projected incurred claims, without the inclusion of active life reserves, will not be less than the sum of the following:

1. Accumulated value of the initial earned premium times $58 \%$;
2. $85 \%$ of the accumulated value of prior premium rate schedule increases;
3. Present value of future projected initial earned premium times $58 \%$; and
4. $85 \%$ of the present value of future projected premium in excess of the projected initial earned premium.

## 15. History of Previous Inforce Rate Increases

| Round | Authorized \% | Authorization Date | Implementation Date |
| :---: | :---: | :---: | :---: |
| 1 | $15 \%$ | $10 / 10 / 2017$ | $5 / 1 / 2018$ |

The experience and projections in Exhibit I have been restated to reflect a rate level similar to that authorized in Maryland on a nationwide basis.

## 16. Requested Rate Increase

The company is requesting a rate increase of $7.06 \%$ for the policy forms listed above. Corresponding rate tables reflecting the $7.06 \%$ rate increase are included with this filing. Please note that, any authorized premium rate increase will not become effective for any insured until that insured's prior rate increase has been effective for at least one (1) year. Please note also that the actual rates implemented may vary slightly from those filed due to implementation rounding algorithms.

## 17. Analysis Performed

The initial premium schedule was based on pricing assumptions believed to be appropriate, given the information available at the time the initial rate schedule was developed. The original pricing assumptions for claim costs, voluntary termination rates, and mortality were as follows:

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a. Incidence and continuance rates for nursing home care and home health care rates were based on MetLife's experience in the long-term care business that the company issued or administered.
b. Voluntary termination rates by duration were assumed to be $6.25 \%$ in year one, grading down to $1.4 \%$ in year five and thereafter.
c. Mortality was based on $95 \%$ of the Annuity 2000 Basic Mortality Table modified using Projection Scale H.

As part of the inforce management of the business, MetLife monitors the performance of the business by completing periodic analyses of lapse rates, mortality rates, claim incidence rates, claim continuance rates and claim utilization rates. The findings from these analyses were used to determine the current experience assumptions on a best estimate basis. A margin for moderately adverse experience equal to $5 \%$ of projected future incurred claims was added to the best estimate assumptions. A model of this business was developed for use in the cash flow testing that is part of the company's annual statutory reporting requirements. Using this model, a future projection of these policies under the new moderately adverse assumptions was performed and the projected lifetime loss ratio for these policies was determined. For these policies, the past experience and future projections based on current moderately adverse assumptions combine to a resulting loss ratio that exceeds both original pricing expectations and state minimum requirements.

The experience analysis, management's view of when a change to the original rate schedule may be considered and the seriatim inforce and claim data used in developing the projections in Exhibit I and II have been relied upon by the actuary in the development of this memorandum.

## 18. Loss Ratio Requirement Compliance Demonstration

Projected experience assuming the increase is implemented is shown in Exhibit I and II. As shown in these exhibits, the expected lifetime loss ratios, with and without the requested rate increase, exceed the minimum requirements under rate stability regulations.

## 19. Average Annual Premium

The average September 30, 2018 annualized premiums for all premium-paying certificates holders in Maryland before and after the current requested increases are:

Before increase:
After prior authorized $15 \%$ increase:
After current requested $7.06 \%$ increase:

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## 20. Proposed Effective Date

The rate increase will apply to certificateholders on the anniversary of their original coverage effective date, following at least a 60-day notification period after the increase is approved.
21. Nationwide Distribution of Business as of September 30, 2018 (based on premium-paying certificates inforce count)

By Issue Age:

| Issue Age | Percent |
| :---: | :---: |
| $<45$ | $0 \%$ |
| $45-49$ | $1 \%$ |
| $50-54$ | $10 \%$ |
| $55-59$ | $27 \%$ |
| $60-64$ | $30 \%$ |
| $65-69$ | $23 \%$ |
| $70-74$ | $8 \%$ |
| $75+$ | $2 \%$ |
| Total | $100 \%$ |

By Benefit Period:

| Benefit Period | Percent |
| :---: | :---: |
| 2 Year | $6 \%$ |
| 3 Year | $32 \%$ |
| 4 Year | $53 \%$ |
| 5 Year | $4 \%$ |
| 7 Year | $1 \%$ |
| Unlimited | $4 \%$ |
| Total | $100 \%$ |

By Inflation Option:

| Inflation | Percent |
| :---: | :---: |
| Optional | $77 \%$ |
| Auto 3\% Compound | $16 \%$ |
| Auto 5\% Compound | $7 \%$ |
| Total | $100 \%$ |

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By Home Care Percentage:

| Home Care \% | Percent |
| :---: | :---: |
| $0 \%$ (FC Only) | $15 \%$ |
| $50 \%$ | $53 \%$ |
| $80 \%$ | $6 \%$ |
| $100 \%$ | $26 \%$ |
| Total | $100 \%$ |

By Elimination Period:

| Days | Percent |
| :---: | :---: |
| 20 | $2 \%$ |
| 30 | $34 \%$ |
| 45 | - |
| 60 | $53 \%$ |
| 90 | $11 \%$ |
| Total | $100 \%$ |

By Gender:

| Gender | Percent |
| :---: | :---: |
| Female | $61 \%$ |
| Male | $39 \%$ |
| Total | $100 \%$ |

## 22. Number of Certificateholders

As of September 30, 2018, the number of premium-paying insured lives inforce and their premiums that will be affected by this increase are:

|  | Issued Before Rate |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Stability Regulation Effective Date <br> Number of <br> Insured | 2018 | Issued On or After Rate Stability <br> Regulation Effective Date <br> Number of <br> Annualized Premium | 2018 <br> Insured |
| Annualized Premium |  |  |  |  |
| Certificates issued in <br> Maryland <br> Certificates issued <br> nationwide | - | - | 55 | $\$ 106,817$ |

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## 23. Actuarial Certification

I am a Fellow 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 and to render the actuarial opinion contained herein.

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

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 Maryland.

I further certify that:

- the analysis described in Section 17 of this memorandum was used in determining the need for a rate increase;
- the policy design, underwriting and claims adjudication practices have been reviewed and taken into consideration in this rate increase request;
- the actuarial assumptions used are appropriate and the gross premiums bear reasonable relationship to the benefits; and
- the relationship between renewal premium rate schedules and new business premium rate schedules is not applicable because MetLife is no longer issuing new business on these policy forms.


[^0]Vice President and Actuary, Metropolitan Life Insurance Company



The premiums shown in this exhibit are normalized to reflect prior raie ineases authorized by Marland rather than that wethized by other state.


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the premiums shown in this exibiti are normalized to reflect prior rate inreases authorized by Maryand rather than that authorized by othe states

The current requested increase of $7.06 \%$ is assumed to be implemented statring $6 / 1 / 12020$
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## Exhibit II-A

Demonstration that Lifetime Incurred Claims with Requested Increase are

## Not Less than Lifetime Earned Premium with Prescribed Factors

Group Policy Form: G.LTC. 1697

| 1 Accumulated value of initial earned premium | 63,135,864 | x | 58\% | $=$ | 36,618,801 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2a Accumulated value of earned premium | 63,135,864 |  |  |  |  |
| 2 b Accumulated value of prior premium rate schedule increases (2a-1) | 0 | $x$ | 85\% | = | 0 |
| 3 Present value of future projected initial earned premium | 41,732,192 | x | 58\% | $=$ | 24,204,672 |
| 4a Present value of future projected premium | 49,476,892 |  |  |  |  |
| 4b Present value of future projected premium in excess of the projected initial earned premiums (4a-3) | 7,744,700 | $x$ | 85\% | = | 6,582,995 |
| 5 Lifetime Earned Premium Times Prescribed Factor: Sum of 1, 2b, 3, and 4b |  |  |  |  | 67,406,468 |
| 6a Accumulated value of incurred claims without the inclusion of active life reserves |  |  |  |  | 8,585,116 |
| 6 b Present value of future projected incurred claims without the inclusion of active life reserves |  |  |  |  | 110,926,926 |
| 7 Lifetime Incurred Claims with Rate Increase: Sum of 6a and 6b |  |  |  |  | 119,512,042 |
| 8 Test: 7 is not less than 5 |  |  |  |  | TRUE |

${ }_{\text {Exhibit }}$ -



The premiums shown in this sexibit ren normalized to reflect prior rate inreases authorized by Marland rather than that athorized by other states


Exhibit - - B



The premiums shown in this exhibitar re normalized to reflect pior rate inreases authorize by Maryland rather than that authorized by other states

The current requested increase of $7.06 \%$ is assumed to be implemented statining $6 / 1 / 12020$.

## Exhibit II-B

Demonstration that Lifetime Incurred Claims with Requested Increase are

## Not Less than Lifetime Earned Premium with Prescribed Factors

Group Policy Form: G.LTC. 1697

| 1 Accumulated value of initial earned premium | 1,570,578 | x | 58\% | = | 910,935 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2a Accumulated value of earned premium | 1,570,578 |  |  |  |  |
| 2 b Accumulated value of prior premium rate schedule increases (2a-1) | 0 | x | 85\% | = | 0 |
| 3 Present value of future projected initial earned premium | 936,654 | x | 58\% | = | 543,259 |
| 4a Present value of future projected premium | 1,110,611 |  |  |  |  |
| 4b Present value of future projected premium in excess of the projected initial earned premiums (4a-3) | 173,957 | $x$ | 85\% | = | 147,863 |
| 5 Lifetime Earned Premium Times Prescribed Factor: Sum of 1, 2b, 3, and 4b |  |  |  |  | 1,602,058 |
| 6a Accumulated value of incurred claims without the inclusion of active life reserves |  |  |  |  | 420,887 |
| 6 b Present value of future projected incurred claims without the inclusion of active life reserves |  |  |  |  | 2,284,494 |
| 7 Lifetime Incurred Claims with Rate Increase: Sum of 6a and 6b |  |  |  |  | 2,705,381 |
| 8 Test: 7 is not less than 5 |  |  |  |  | true |

## Discount Rate

Voluntary Lapse Rates

| Policy <br> Duration | Lapse <br> Rate |
| :---: | :---: |
| 1 | $6.25 \%$ |
| 2 | $2.90 \%$ |
| 3 | $2.40 \%$ |
| 4 | $1.90 \%$ |
| $5+$ | $1.40 \%$ |

Mortality was based on $95 \%$ of the Annuity 2000 Basic mortality table using Projection Scale H.

Current Best Estimate Assumptions

### 4.00\%

| Policy <br> Duration | Lapse <br> Rate |
| :---: | :---: |
| 1 | $5.50 \%$ |
| 2 | $3.50 \%$ |
| 3 | $2.50 \%$ |
| 4 | $2.00 \%$ |
| 5 | $1.50 \%$ |
| 6 | $1.25 \%$ |
| 7 | $0.90 \%$ |
| $8+$ | $0.80 \%$ |

$88 \%$ Annuity 2000 Basic Table with Mortality Selection Factors of

| Policy <br> Duration | Mortality <br> Selection |
| :---: | :---: |
| 1 | $25.00 \%$ |
| 2 | $50.00 \%$ |
| 3 | $55.00 \%$ |
| 4 | $65.00 \%$ |
| 5 | $70.00 \%$ |
| 6 | $75.00 \%$ |
| 7 | $80.00 \%$ |
| 8 | $85.00 \%$ |
| 9 | $90.00 \%$ |
| 10 | $95.00 \%$ |
| $11+$ | $100.00 \%$ |

## Morbidity:

ncidence

Continuance

Utilization rates for nursing home care and home health care were based on MetLife's experience in the long-term care business that the company issued or administered.
Sample Ultimate Smoothed Incidence Rates (before gross-up to zero-day elimination)

| Attained | Facility Care |  | Home Care |  |
| :---: | :---: | :---: | :---: | :---: |
| Age | Male | Female | Male | Female |
| 81 | $1.68 \%$ | $1.84 \%$ | $1.42 \%$ | $1.47 \%$ |
| 82 | $2.02 \%$ | $2.15 \%$ | $1.64 \%$ | $1.68 \%$ |
| 83 | $2.40 \%$ | $2.51 \%$ | $1.90 \%$ | $1.92 \%$ |
| 84 | $2.84 \%$ | $2.89 \%$ | $2.18 \%$ | $2.19 \%$ |
| 85 | $3.33 \%$ | $3.32 \%$ | $2.49 \%$ | $2.48 \%$ |

Termination curves were constructed separately for deaths and recoveries, gender and care path. Coefficients to an exponential-shaped curve were based on experience adjusted to minimize differences between actual and expected terminations in total as well as at periodic duration points along the curves. Death and recovery termination rates were recombined into a single termination table for modeling and valuation uses.

Continuance rates for nursing home care and home health care were based on MetLife's experience in the long-term care business that the company issued or administered.
Incidence rates for nursing home care and home health care were based on MetLife's experience in the long-term care business that the company issued or administered.

|  | $\begin{gathered} \text { Calendar } \\ \text { Year } \\ \hline \end{gathered}$ | Actual / Projected Experience |  |  | Expected Pricing Experience |  |  |  | Accumulative Loss Ratio as of 12/31/2017 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | A | B | $\mathbf{C = B} / \mathrm{A}$ | D | E | F=E/D | $\mathrm{G}=\mathrm{C} / \mathrm{F}$ | H | I | $\mathrm{J}=\mathrm{H} / \mathrm{l}$ |
|  |  | Earned Premium | Incurred Claims | Loss <br> Ratio | Earned Premium | Incurred Claims | Loss <br> Ratio | Actual to Expected Ratio | Actual/Projected at 4\% (on C) | Expected at 5.5\% (on F) | Actual to Expected Ratio |
|  | 2006 | 55,921 | 0 | 0.0\% | 55,921 | 1,615 | 2.9\% | 0.00 | 0.0\% | 2.9\% | 0.00 |
|  | 2007 | 2,754,957 | 0 | 0.0\% | 978,177 | 43,134 | 4.4\% | 0.00 | 0.0\% | 4.3\% | 0.00 |
|  | 2008 | 5,205,618 | 0 | 0.0\% | 4,694,968 | 307,865 | 6.6\% | 0.00 | 0.0\% | 6.1\% | 0.00 |
|  | 2009 | 5,069,488 | 152,062 | 3.0\% | 4,945,061 | 458,805 | 9.3\% | 0.32 | 1.1\% | 7.5\% | 0.15 |
| Historical | 2010 | 4,929,577 | 380,241 | 7.7\% | 4,794,077 | 599,395 | 12.5\% | 0.62 | 2.8\% | 9.0\% | 0.32 |
| Experience | 2011 | 4,822,314 | 458,909 | 9.5\% | 4,663,356 | 770,631 | 16.5\% | 0.58 | 4.1\% | 10.6\% | 0.39 |
|  | 2012 | 4,765,259 | 563,181 | 11.8\% | 4,554,075 | 1,009,469 | 22.2\% | 0.53 | 5.4\% | 12.5\% | 0.43 |
|  | 2013 | 4,696,615 | 350,438 | 7.5\% | 4,442,719 | 1,172,703 | 26.4\% | 0.28 | 5.6\% | 14.3\% | 0.39 |
|  | 2014 | 4,672,229 | 1,522,692 | 32.6\% | 4,328,267 | 1,300,928 | 30.1\% | 1.08 | 8.6\% | 16.0\% | 0.54 |
|  | 2015 | 4,613,502 | 1,145,499 | 24.8\% | 4,209,938 | 1,451,696 | 34.5\% | 0.72 | 10.1\% | 17.7\% | 0.57 |
|  | 2016 | 4,560,996 | 966,901 | 21.2\% | 4,087,841 | 1,594,702 | 39.0\% | 0.54 | 11.1\% | 19.3\% | 0.57 |
|  | 2017 | 4,528,732 | 2,076,727 | 45.9\% | 3,961,859 | 1,733,637 | 43.8\% | 1.05 | 13.6\% | 21.0\% | 0.65 |
|  | 2018 | 4,480,768 | 2,486,014 | 55.5\% | 3,832,967 | 1,917,350 | 50.0\% | 1.11 | 16.3\% | 22.6\% | 0.72 |
|  | 2019 | 4,738,559 | 2,818,497 | 59.5\% | 3,701,188 | 2,086,146 | 56.4\% | 1.06 | 19.0\% | 24.3\% | 0.78 |
|  | 2020 | 4,567,372 | 3,179,295 | 69.6\% | 3,566,508 | 2,234,549 | 62.7\% | 1.11 | 21.8\% | 26.0\% | 0.84 |
|  | 2021 | 4,372,385 | 3,567,772 | 81.6\% | 3,428,951 | 2,437,604 | 71.1\% | 1.15 | 24.6\% | 27.7\% | 0.89 |
|  | 2022 | 4,172,746 | 3,988,421 | 95.6\% | 3,288,618 | 2,621,007 | 79.7\% | 1.20 | 27.6\% | 29.4\% | 0.94 |
|  | 2023 | 3,968,473 | 4,443,435 | 112.0\% | 3,145,653 | 2,789,330 | 88.7\% | 1.26 | 30.7\% | 31.2\% | 0.98 |
|  | 2024 | 3,759,896 | 4,922,886 | 130.9\% | 3,000,169 | 3,005,685 | 100.2\% | 1.31 | 34.0\% | 33.0\% | 1.03 |
|  | 2025 | 3,547,788 | 5,419,331 | 152.8\% | 2,852,457 | 3,188,147 | 111.8\% | 1.37 | 37.4\% | 34.8\% | 1.07 |
|  | 2026 | 3,332,909 | 5,922,508 | 177.7\% | 2,702,907 | 3,357,874 | 124.2\% | 1.43 | 40.9\% | 36.6\% | 1.12 |
|  | 2027 | 3,116,377 | 6,417,132 | 205.9\% | 2,551,985 | 3,579,041 | 140.2\% | 1.47 | 44.6\% | 38.4\% | 1.16 |
|  | 2028 | 2,899,932 | 6,898,318 | 237.9\% | 2,400,219 | 3,778,352 | 157.4\% | 1.51 | 48.3\% | 40.2\% | 1.20 |
|  | 2029 | 2,684,751 | 7,350,712 | 273.8\% | 2,248,097 | 3,955,052 | 175.9\% | 1.56 | 52.2\% | 42.1\% | 1.24 |
|  | 2030 | 2,472,303 | 7,764,419 | 314.1\% | 2,096,308 | 4,164,081 | 198.6\% | 1.58 | 56.1\% | 43.9\% | 1.28 |
|  | 2031 | 2,264,169 | 8,119,558 | 358.6\% | 1,945,663 | 4,354,464 | 223.8\% | 1.60 | 60.0\% | 45.8\% | 1.31 |
|  | 2032 | 2,061,710 | 8,419,669 | 408.4\% | 1,797,005 | 4,539,525 | 252.6\% | 1.62 | 63.9\% | 47.7\% | 1.34 |
|  | 2033 | 1,866,061 | 8,656,051 | 463.9\% | 1,651,171 | 4,754,815 | 288.0\% | 1.61 | 67.7\% | 49.5\% | 1.37 |
|  | 2034 | 1,678,479 | 8,810,568 | 524.9\% | 1,509,046 | 4,949,371 | 328.0\% | 1.60 | 71.5\% | 51.4\% | 1.39 |
|  | 2035 | 1,500,107 | 8,884,544 | 592.3\% | 1,371,419 | 5,089,696 | 371.1\% | 1.60 | 75.2\% | 53.2\% | 1.41 |
|  | 2036 | 1,331,816 | 8,866,410 | 665.7\% | 1,238,872 | 5,301,504 | 427.9\% | 1.56 | 78.7\% | 55.0\% | 1.43 |
|  | 2037 | 1,174,389 | 8,768,979 | 746.7\% | 1,112,117 | 5,467,029 | 491.6\% | 1.52 | 82.1\% | 56.8\% | 1.44 |
|  | 2038 | 1,028,241 | 8,594,137 | 835.8\% | 991,747 | 5,606,410 | 565.3\% | 1.48 | 85.3\% | 58.6\% | 1.46 |
|  | 2039 | 893,769 | 8,333,577 | 932.4\% | 878,233 | 5,748,536 | 654.6\% | 1.42 | 88.3\% | 60.3\% | 1.46 |
|  | 2040 | 771,100 | 8,002,306 | 1037.8\% | 771,889 | 5,778,793 | 748.7\% | 1.39 | 91.0\% | 62.0\% | 1.47 |
|  | 2041 | 660,080 | 7,601,925 | 1151.7\% | 672,978 | 5,831,530 | 866.5\% | 1.33 | 93.6\% | 63.6\% | 1.47 |
|  | 2042 | 560,531 | 7,150,633 | 1275.7\% | 581,789 | 5,849,382 | 1005.4\% | 1.27 | 95.9\% | 65.1\% | 1.47 |
| Projected | 2043 | 472,047 | 6,656,056 | 1410.0\% | 498,410 | 5,762,008 | 1156.1\% | 1.22 | 98.0\% | 66.6\% | 1.47 |
| Experience | 2044 | 394,166 | 6,130,943 | 1555.4\% | 422,871 | 5,496,423 | 1299.8\% | 1.20 | 99.8\% | 67.9\% | 1.47 |
|  | 2045 | 326,312 | 5,584,934 | 1711.5\% | 355,110 | 5,271,186 | 1484.4\% | 1.15 | 101.4\% | 69.1\% | 1.47 |
|  | 2046 | 267,664 | 5,033,273 | 1880.4\% | 294,956 | 5,093,874 | 1727.0\% | 1.09 | 102.8\% | 70.2\% | 1.47 |
|  | 2047 | 217,434 | 4,492,618 | 2066.2\% | 242,417 | 4,260,167 | 1757.4\% | 1.18 | 104.1\% | 71.0\% | 1.46 |
|  | 2048 | 174,874 | 3,959,614 | 2264.3\% | 196,997 | 3,462,812 | 1757.8\% | 1.29 | 105.1\% | 71.7\% | 1.47 |
|  | 2049 | 139,255 | 3,446,826 | 2475.2\% | 158,258 | 2,782,069 | 1757.9\% | 1.41 | 106.0\% | 72.2\% | 1.47 |
|  | 2050 | 109,776 | 2,966,153 | 2702.0\% | 125,670 | 2,209,444 | 1758.1\% | 1.54 | 106.7\% | 72.6\% | 1.47 |
|  | 2051 | 85,591 | 2,523,329 | 2948.1\% | 98,451 | 1,730,905 | 1758.1\% | 1.68 | 107.3\% | 72.9\% | 1.47 |
|  | 2052 | 65,920 | 2,123,353 | 3221.1\% | 76,397 | 1,343,156 | 1758.1\% | 1.83 | 107.7\% | 73.1\% | 1.47 |
|  | 2053 | 50,233 | 1,764,082 | 3511.8\% | 58,492 | 1,028,372 | 1758.1\% | 2.00 | 108.1\% | 73.3\% | 1.48 |
|  | 2054 | 37,880 | 1,444,507 | 3813.4\% | 44,143 | 776,101 | 1758.1\% | 2.17 | 108.4\% | 73.4\% | 1.48 |
|  | 2055 | 28,182 | 1,165,876 | 4137.0\% | 32,772 | 576,178 | 1758.1\% | 2.35 | 108.7\% | 73.4\% | 1.48 |
|  | 2056 | 20,665 | 927,486 | 4488.1\% | 23,716 | 416,958 | 1758.1\% | 2.55 | 108.8\% | 73.5\% | 1.48 |
|  | 2057 | 14,903 | 727,443 | 4881.3\% | 17,046 | 299,692 | 1758.1\% | 2.78 | 109.0\% | 73.5\% | 1.48 |
|  | 2058 | 10,602 | 560,718 | 5288.7\% | 12,008 | 211,124 | 1758.1\% | 3.01 | 109.1\% | 73.6\% | 1.48 |
|  | 2059 | 7,429 | 424,862 | 5719.3\% | 8,275 | 145,487 | 1758.1\% | 3.25 | 109.2\% | 73.6\% | 1.48 |
|  | 2060 | 5,121 | 316,417 | 6178.3\% | 5,593 | 98,336 | 1758.1\% | 3.51 | 109.2\% | 73.6\% | 1.48 |
|  | 2061 | 3,483 | 231,743 | 6653.1\% | 3,729 | 65,565 | 1758.1\% | 3.78 | 109.2\% | 73.6\% | 1.48 |
|  | 2062 | 2,325 | 166,991 | 7181.7\% | 2,450 | 43,066 | 1758.1\% | 4.08 | 109.3\% | 73.6\% | 1.48 |
|  | 2063 | 1,523 | 117,559 | 7718.3\% | 1,406 | 24,716 | 1758.1\% | 4.39 | 109.3\% | 73.6\% | 1.49 |
|  | 2064 | 987 | 81,217 | 8232.5\% | 995 | 17,498 | 1758.1\% | 4.68 | 109.3\% | 73.6\% | 1.49 |
|  | 2065 | 632 | 56,486 | 8936.2\% | 718 | 12,627 | 1758.1\% | 5.08 | 109.3\% | 73.6\% | 1.49 |
|  | 2066 | 403 | 40,205 | 9985.3\% | 503 | 8,850 | 1758.1\% | 5.68 | 109.3\% | 73.6\% | 1.49 |
|  | 2067 | 263 | 29,416 | 11203.5\% | 340 | 5,985 | 1758.1\% | 6.37 | 109.3\% | 73.6\% | 1.49 |
|  | 2068 | 177 | 21,039 | 11899.8\% | 221 | 3,881 | 1758.1\% | 6.77 | 109.3\% | 73.6\% | 1.49 |
|  | 2069 | 122 | 15,519 | 12672.2\% | 130 | 2,278 | 1758.1\% | 7.21 | 109.3\% | 73.6\% | 1.49 |
|  | 2070 | 85 | 11,692 | 13754.4\% | 13 | 221 | 1758.1\% | 7.82 | 109.3\% | 73.6\% | 1.49 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | Past | 50,675,209 | 7,616,648 | 15.0\% | 45,716,259 | 10,444,580 | 22.8\% | 0.66 | 13.6\% | 21.0\% | 0.65 |
|  | Future | 66,342,762 | 216,407,452 | 326.2\% | 56,020,042 | 143,534,254 | 256.2\% | 1.27 | 236.5\% | 165.5\% | 1.43 |
|  | Lifetime | 117,017,971 | 224,024,100 | 191.4\% | 101,736,301 | 153,978,834 | 151.4\% | 1.26 | 109.3\% | 74.0\% | 1.48 |

## Note.

- Figures in column A are normalized to reflect the prior rate action authorized by Maryland rather than the prior rate action approved by other states.
-Figures in column D do not reflect any rate action

Attachment 3
Metropolitan Life Insurance Company
Nationwide Experience Projections (Premiums Normalized to Reflect Prior Authorized Increase)
Actual to Expected Ratios

| Duration | Actual / Projected Experience <br> Actual Experience through 12/31/2017 <br> Projections based on Current Assumptions |  |  | Expected Pricing Experience <br> Reproduced based on Original Pricing Assumptions since inception |  |  | $\mathrm{G}=\mathrm{C} / \mathrm{F}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | $\mathbf{C = B} / \mathrm{A}$ | D | E | F = E/D |  |
|  | Earned Premium | Incurred Claims | Loss Ratio | Earned Premium | Incurred Claims | Loss <br> Ratio | Actual to Expected Ratio |
| 1 | 2,826,739 | 0 | 0.0\% | 2,826,739 | 81,633 | 2.9\% | 0.00 |
| 2 | 5,252,409 | 46,131 | 0.9\% | 5,252,409 | 358,144 | 6.8\% | 0.13 |
| 3 | 5,063,661 | 105,931 | 2.1\% | 5,048,006 | 505,040 | 10.0\% | 0.21 |
| 4 | 4,920,725 | 248,972 | 5.1\% | 4,872,592 | 654,625 | 13.4\% | 0.38 |
| 5 | 4,830,605 | 801,571 | 16.6\% | 4,722,650 | 833,574 | 17.7\% | 0.94 |
| 6 | 4,745,903 | 351,788 | 7.4\% | 4,595,978 | 1,107,830 | 24.1\% | 0.31 |
| 7 | 4,692,428 | 395,348 | 8.4\% | 4,467,387 | 1,273,760 | 28.5\% | 0.30 |
| 8 | 4,666,921 | 1,366,267 | 29.3\% | 4,336,579 | 1,400,781 | 32.3\% | 0.91 |
| 9 | 4,621,994 | 1,556,206 | 33.7\% | 4,202,671 | 1,561,945 | 37.2\% | 0.91 |
| 10 | 4,572,665 | 771,207 | 16.9\% | 4,065,966 | 1,708,942 | 42.0\% | 0.40 |
| 11 | 4,552,854 | 2,043,119 | 44.9\% | 3,926,216 | 1,844,742 | 47.0\% | 0.96 |
| 12 | 4,854,473 | 2,454,594 | 50.6\% | 3,784,671 | 2,040,875 | 53.9\% | 0.94 |
| 13 | 4,722,689 | 2,822,908 | 59.8\% | 3,641,252 | 2,212,738 | 60.8\% | 0.98 |
| 14 | 4,532,944 | 3,181,707 | 70.2\% | 3,495,972 | 2,351,815 | 67.3\% | 1.04 |
| 15 | 4,339,025 | 3,569,335 | 82.3\% | 3,348,882 | 2,566,441 | 76.6\% | 1.07 |
| 16 | 4,140,479 | 3,988,437 | 96.3\% | 3,200,103 | 2,748,240 | 85.9\% | 1.12 |
| 17 | 3,937,445 | 4,440,730 | 112.8\% | 3,049,812 | 2,905,978 | 95.3\% | 1.18 |
| 18 | 3,730,232 | 4,916,721 | 131.8\% | 2,898,116 | 3,130,805 | 108.0\% | 1.22 |
| 19 | 3,519,599 | 5,410,491 | 153.7\% | 2,745,330 | 3,305,467 | 120.4\% | 1.28 |
| 20 | 3,306,315 | 5,908,595 | 178.7\% | 2,591,844 | 3,461,063 | 133.5\% | 1.34 |
| 21 | 3,091,611 | 6,403,554 | 207.1\% | 2,438,122 | 3,685,130 | 151.1\% | 1.37 |
| 22 | 2,876,854 | 6,880,954 | 239.2\% | 2,284,687 | 3,875,512 | 169.6\% | 1.41 |
| 23 | 2,663,588 | 7,332,971 | 275.3\% | 2,131,979 | 4,035,200 | 189.3\% | 1.45 |
| 24 | 2,452,980 | 7,743,661 | 315.7\% | 1,980,659 | 4,239,780 | 214.1\% | 1.47 |
| 25 | 2,246,645 | 8,101,883 | 360.6\% | 1,831,491 | 4,415,482 | 241.1\% | 1.50 |
| 26 | 2,046,018 | 8,399,707 | 410.5\% | 1,685,252 | 4,582,225 | 271.9\% | 1.51 |
| 27 | 1,852,187 | 8,640,251 | 466.5\% | 1,542,692 | 4,787,852 | 310.4\% | 1.50 |
| 28 | 1,666,288 | 8,798,833 | 528.0\% | 1,404,616 | 4,969,733 | 353.8\% | 1.49 |
| 29 | 1,489,480 | 8,877,766 | 596.0\% | 1,271,726 | 5,076,423 | 399.2\% | 1.49 |
| 30 | 1,322,650 | 8,867,403 | 670.4\% | 1,144,472 | 5,283,656 | 461.7\% | 1.45 |
| 31 | 1,166,474 | 8,771,671 | 752.0\% | 1,023,481 | 5,424,959 | 530.1\% | 1.42 |
| 32 | 1,021,494 | 8,603,135 | 842.2\% | 909,231 | 5,538,734 | 609.2\% | 1.38 |
| 33 | 888,038 | 8,345,556 | 939.8\% | 802,088 | 5,672,367 | 707.2\% | 1.33 |
| 34 | 766,266 | 8,016,908 | 1046.2\% | 702,256 | 5,664,477 | 806.6\% | 1.30 |
| 35 | 656,008 | 7,619,625 | 1161.5\% | 609,887 | 5,702,701 | 935.0\% | 1.24 |
| 36 | 557,136 | 7,167,516 | 1286.5\% | 525,193 | 5,704,450 | 1086.2\% | 1.18 |
| 37 | 469,241 | 6,670,950 | 1421.6\% | 448,152 | 5,606,903 | 1251.1\% | 1.14 |
| 38 | 391,868 | 6,143,746 | 1567.8\% | 378,716 | 5,305,878 | 1401.0\% | 1.12 |
| 39 | 324,406 | 5,597,193 | 1725.4\% | 316,754 | 5,063,693 | 1598.6\% | 1.08 |
| 40 | 266,123 | 5,044,116 | 1895.4\% | 262,000 | 4,954,067 | 1890.9\% | 1.00 |
| 41 | 216,204 | 4,499,585 | 2081.2\% | 214,458 | 4,055,110 | 1890.9\% | 1.10 |
| 42 | 173,921 | 3,966,688 | 2280.7\% | 173,547 | 3,281,549 | 1890.9\% | 1.21 |
| 43 | 138,504 | 3,452,459 | 2492.7\% | 138,831 | 2,625,106 | 1890.9\% | 1.32 |
| 44 | 109,200 | 2,970,782 | 2720.5\% | 109,795 | 2,076,076 | 1890.9\% | 1.44 |
| 45 | 85,134 | 2,526,947 | 2968.2\% | 85,602 | 1,618,625 | 1890.9\% | 1.57 |
| 46 | 65,583 | 2,124,964 | 3240.1\% | 66,175 | 1,251,275 | 1890.9\% | 1.71 |
| 47 | 49,963 | 1,763,964 | 3530.6\% | 50,440 | 953,756 | 1890.9\% | 1.87 |
| 48 | 37,666 | 1,443,542 | 3832.5\% | 37,897 | 716,584 | 1890.9\% | 2.03 |
| 49 | 28,024 | 1,163,404 | 4151.4\% | 28,025 | 529,922 | 1890.9\% | 2.20 |
| 50 | 20,545 | 923,895 | 4496.9\% | 20,134 | 380,716 | 1890.9\% | 2.38 |
| 51 | 14,824 | 723,147 | 4878.2\% | 14,433 | 272,908 | 1890.9\% | 2.58 |
| 52 | 10,528 | 556,369 | 5284.7\% | 10,113 | 191,223 | 1890.9\% | 2.79 |
| 53 | 7,373 | 420,850 | 5708.2\% | 6,930 | 131,034 | 1890.9\% | 3.02 |
| 54 | 5,086 | 313,130 | 6157.2\% | 4,658 | 88,070 | 1890.9\% | 3.26 |
| 55 | 3,461 | 229,538 | 6631.7\% | 3,089 | 58,406 | 1890.9\% | 3.51 |
| 56 | 2,313 | 165,291 | 7145.4\% | 2,039 | 38,556 | 1890.9\% | 3.78 |
| 57 | 1,519 | 116,578 | 7676.8\% | 1,116 | 21,097 | 1890.9\% | 4.06 |
| 58 | 984 | 80,937 | 8224.5\% | 822 | 15,547 | 1890.9\% | 4.35 |
| 59 | 631 | 56,738 | 8991.5\% | 591 | 11,170 | 1890.9\% | 4.76 |
| 60 | 404 | 40,168 | 9939.8\% | 412 | 7,787 | 1890.9\% | 5.26 |


| Lifetime | $117,017,329$ | $223,946,430$ | $191.4 \%$ | $101,735,737$ | $153,968,176$ | $151.3 \%$ | 1.26 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lifetime $^{*}$ | $70,575,802$ | $77,056,768$ | $109.2 \%$ | $53,954,096$ | $39,390,911$ | $73.0 \%$ | 1.50 |

Note:

- Figures in column A are normalized to reflect the prior rate action authorized by Maryland rather than the prior rate action approved by other states.
- Figures in column $D$ do not reflect any rate action.
* Columns $A$ and $B$ are discounted back to the inception date at an interest rate of $4 \%$, which is the weighted average maximum valuation interest rate for contract reserves. Columns D and E are discounted back to the inception date at the original pricing interest rate of $5.5 \%$.

Attachment 4
Metropolitan Life Insurance Company
Actual to Expected Lapse/Mortality
Metropolitankitien insuranese Company
Group Policy Form: G.LTC1697
Actual to Expected - Lapse

| Lapse |  |  |  |
| :---: | :---: | :---: | :---: |
| Policy <br> Duration | Actual | Expected * | A/E\% |
| 1 | 6,620 | 6,653 | $99.51 \%$ |
| 2 | 3,764 | 4,040 | $93.16 \%$ |
| 3 | 2,701 | 2,795 | $96.63 \%$ |
| 4 | 2,055 | 2,177 | $94.38 \%$ |
| 5 | 1,542 | 1,595 | $96.66 \%$ |
| 6 | 1,408 | 1,301 | $108.22 \%$ |
| 7 | 1,194 | 1,018 | $117.24 \%$ |
| 8 | 1,031 | 996 | $103.47 \%$ |
| 9 | 899 | 974 | $92.26 \%$ |
| $10+$ | 4,076 | 5,210 | $78.24 \%$ |

Attachment 4
Metropolitan Life Insurance Company
Group Policy Form: G.LTC1697
Actual to Expected - Mortality

| Mortality |  |  |  |
| :---: | :---: | :---: | :---: |
| Policy <br> Duration | Actual | Expected ${ }^{\star}$ | A/E\% |
| 1 | 536 | 541 | $99.05 \%$ |
| 2 | 924 | 1,129 | $81.85 \%$ |
| 3 | 1,110 | 1,318 | $84.25 \%$ |
| 4 | 1,316 | 1,663 | $79.11 \%$ |
| 5 | 1,532 | 1,922 | $79.72 \%$ |
| 6 | 1,703 | 2,213 | $76.97 \%$ |
| 7 | 1,903 | 2,520 | $75.52 \%$ |
| 8 | 2,125 | 2,801 | $75.86 \%$ |
| 9 | 2,218 | 3,068 | $72.30 \%$ |
| 10 | 2,416 | 3,259 | $74.13 \%$ |
| 11 | 2,462 | 3,388 | $72.67 \%$ |
| 12 | 2,476 | 3,260 | $75.95 \%$ |
| 13 | 2,305 | 2,836 | $81.28 \%$ |
| $14+$ | 6,736 | 7,196 | $93.61 \%$ |

* The expecteds are based on current best estimate assumptions.


## Attachment 4

Metropolitan Life Insurance Company
Group Policy Form: G.LTC1697
Actual to Expected - Incidence

| Attained Age | Female |  |  |  |  |  | Male |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Facility Care |  |  | Home Care |  |  | Facility Care |  |  | Home Care |  |  |
|  | Actual Claims ${ }^{1}$ | Expected Claims ${ }^{2}$ | A/E\% | Actual Claims ${ }^{1}$ | Expected Claims ${ }^{2}$ | A/E\% | Actual Claims ${ }^{1}$ | Expected Claims ${ }^{2}$ | A/E\% | Actual Claims ${ }^{1}$ | Expected Claims ${ }^{2}$ | A/E\% |
| under 50 | 0 | 0 | 0\% | 0 | 0 | 0\% | 0 | 0 | 0\% | 0 | 0 | 0\% |
| 50 to 54 | 1 | 3 | 34\% | 4 | 4 | 105\% | 1 | 1 | 81\% | 2 | 2 | 125\% |
| 55 to 59 | 21 | 28 | 74\% | 50 | 40 | 124\% | 5 | 15 | 33\% | 28 | 20 | 138\% |
| 60 to 64 | 62 | 88 | 70\% | 131 | 135 | 97\% | 49 | 52 | 94\% | 84 | 72 | 117\% |
| 65 to 69 | 174 | 200 | 87\% | 281 | 290 | 97\% | 110 | 117 | 94\% | 154 | 165 | 93\% |
| 70 to 74 | 539 | 538 | 100\% | 428 | 448 | 96\% | 338 | 257 | 131\% | 298 | 272 | 110\% |
| 75 to 79 | 1,087 | 1,055 | 103\% | 649 | 628 | 103\% | 602 | 576 | 104\% | 403 | 431 | 93\% |
| 80 to 84 | 1,322 | 1,281 | 103\% | 644 | 602 | 107\% | 677 | 726 | 93\% | 403 | 414 | 97\% |
| 85 to 89 | 872 | 862 | 101\% | 350 | 357 | 98\% | 442 | 467 | 95\% | 213 | 217 | 98\% |
| over 89 | 200 | 242 | 82\% | 83 | 101 | 83\% | 91 | 108 | 84\% | 42 | 47 | 90\% |
| Total | 4,278 | 4,297 | 100\% | 2,620 | 2,606 | 101\% | 2,315 | 2,321 | 100\% | 1,627 | 1,640 | 99\% |

${ }^{1}$ Based on actual experience through 6/30/2017 including adjustments for incurred but not reported claims.
${ }^{2}$ The expected claims are based on current best estimate assumptions.

## Attachment 4

## Metropolitan Life Insurance Company

 Actual to Expected - Claim Termination All Business (exclude AARP-Pru)| Claim Duration <br> (Months) | Actual <br> Deaths | Expected <br> Deaths $^{1}$ | Actual <br> Recoveries | Expected <br> Recoveries | Deaths <br> A/E\% | Recoveries <br> A/E\% | Total A/E\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 881 | 542 | 64 | 85 | $163 \%$ | $76 \%$ | $151 \%$ |
| 2 | 766 | 1,329 | 163 | 260 | $58 \%$ | $63 \%$ | $58 \%$ |
| 3 | 822 | 1,155 | 251 | 247 | $71 \%$ | $102 \%$ | $77 \%$ |
| 4 | 928 | 1,272 | 324 | 281 | $73 \%$ | $115 \%$ | $81 \%$ |
| 5 | 926 | 1,047 | 288 | 230 | $88 \%$ | $125 \%$ | $95 \%$ |
| 6 | 806 | 916 | 212 | 199 | $88 \%$ | $106 \%$ | $91 \%$ |
| 7 | 703 | 760 | 193 | 164 | $93 \%$ | $118 \%$ | $97 \%$ |
| 8 | 631 | 654 | 143 | 136 | $96 \%$ | $105 \%$ | $98 \%$ |
| 9 | 613 | 575 | 123 | 114 | $107 \%$ | $108 \%$ | $107 \%$ |
| 10 | 541 | 519 | 120 | 97 | $104 \%$ | $124 \%$ | $107 \%$ |
| 11 | 491 | 478 | 91 | 84 | $103 \%$ | $108 \%$ | $104 \%$ |
| 12 | 536 | 449 | 87 | 74 | $119 \%$ | $118 \%$ | $119 \%$ |
| 13 | 442 | 423 | 78 | 66 | $104 \%$ | $118 \%$ | $106 \%$ |
| $14+$ | 13,138 | 11,830 | 1,272 | 1,427 | $11 \%$ | $89 \%$ | $109 \%$ |
| Total | $\mathbf{2 2 , 2 2 4}$ | $\mathbf{2 1 , 9 4 9}$ | $\mathbf{3 , 4 0 9}$ | $\mathbf{3 , 4 6 1}$ | $\mathbf{1 0 1 \%}$ | $\mathbf{9 8 \%}$ | $\mathbf{1 0 1 \%}$ |

${ }^{1}$ The expected deaths and recoveries are based on current best estimate assumptions.


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