Continental Casualty Company ("CCC")
Actuarial Memorandum
In Support of a Premium Rate Increase Request
Maryland

The following group long term care policy forms subject to this rate increase request were originally issued nationwide during the calendar years referenced below:

Policy Form	Product Name	Originally Issued	Closed to New Groups
SR-LTCP et al	GLTC 2	1994	2003

This long term care insurance was provided under group policies issued to cover eligible employees of an employer, and at the option of the employer, retirees and/or family members of eligible employees who meet eligibility requirements. In addition, the SR-LTCP-Series form was marketed through a small number of associations.

1. Purpose and Justification of Filing

The purpose of this memorandum is to provide actuarial information supporting CCC's request for a rate increase for the above-listed policy forms, including all associated riders. This increase is requested in order to establish premium rates that are reasonable in relation to benefits based on actual historical experience and best-estimate projections for these forms. This rate filing is not intended to be used for other purposes.

In 2015, the company began a nationwide rate increase program for the above-listed policy forms due to significant deterioration of nationwide lifetime loss ratios based on the Company's best-estimate projections. That was the first time a rate increase had been requested on these policy forms. In that program, 95.5% was requested in every state[1] in order to get the block to a 77% lifetime loss ratio. Since that time, however, further deterioration in experience has necessitated the need for additional rate increases. This rate increase indication varies by benefit feature, specifically the standard lifetime automatic benefit increase ("ABI") benefit, as follows:

Benefit Feature	Requested Rate Increase (Y1, Y2, Y3)
Insureds without Standard Lifetime ABI	83.1% (70%, 7.7%)
Insureds with Standard Lifetime ABI	273.2% (70%, 70%, 29.1%)

Please see the Supplement to Rate Sheet for details on the implementation schedule.

[1] Except in those jurisdictions that impose annual limits

To the extent that states do not implement the requested amounts, it is the intent of management to submit follow-up filings, where not otherwise limited by law or regulation, such that an actuarially equivalent increase amount is attained.

Upon approval of this rate revision, all impacted insureds will be offered the option to reduce coverage so as to offset all or part of the rate increase. When insureds are notified of the rate increase, they will be encouraged to call our customer service staff and discuss these options if they so desire. Available options will depend upon the insured's current coverage levels, benefit options available under their group plan, and any statutory minimum benefit levels in your state.

Another option that is being offered to insureds is the "Surrender Option". If this option is elected by the insured, the insured will surrender their policy in return for a one-time cash payment from the Company. The amount of the one-time cash surrender payment is equal to the unisex-adjusted statutory active life reserve held for the specific insured.

The above options will be offered to all insureds governed by your state for rate increase purposes with the policy forms listed in this rate increase filing, regardless of whether or not they receive a rate increase to ensure fairness within the product portfolio.

Although many insureds have a contractual non-forfeiture benefit, the Company is making a contingent non-forfeiture option ("CNF") available to all insureds in conjunction with this rate increase. This option provides a paid-up policy with benefits equal to the total of premiums paid, less any claims paid. If a policy lapses due to non-payment of premiums without notifying the Company of the insured's intention to elect any of the above options, the insured's coverage will default to a standard 100% CNF benefit.

Although certain policy forms were originally priced prior to rate stability requirements in your state, certificates have been added after the rate stability requirements in your state. Therefore, this filing is being made according to rate stability requirements in your state.

2. Description of Benefits

Form SR-LTCP-Series (i.e. GLTC 2):

- This form provides a daily benefit for long term care received at home, an assisted living facility, or a nursing facility. Benefits are payable in the event the insured is impaired in a stated number of ADLs or is cognitively impaired after the appropriate elimination period has been satisfied. The policy form was available on an expense incurred (reimburse actual cost up to a daily benefit) or indemnity (pay a daily benefit for each day qualifying care was received) basis. Lifetime maximum benefits are defined as an aggregate dollar amount that is a multiple of the facility daily benefit. Available lifetime maximum benefits are (multiples of the daily facility benefit) 730x, 1,095x, 1,460x, 1,500x, 1,825x, 2,000x, 2,190x, 2,555x, 3,000x, 3,650x, 4,000x, or 5,000x, and an option for an unlimited lifetime maximum benefit. Benefits for home based care are available at 50% to 100% of the daily facility benefit, depending on the level chosen by the insured.

- *Other Benefits*: The form also includes benefits for bed reservation, respite care, waiver of premium, home medical technology, caregiver training, and alternate plan of care.

- *Optional Benefits*: The form may have also included benefit options for additional respite care, family respite care, informal caregiver, worldwide coverage, restoration of benefits, non-forfeiture, and refund of premium upon death. Insureds may have had the option of selecting an ABI option. If the insured did not elect an ABI option, a guaranteed benefit increase option was provided. This option allows the insured to periodically buy-up additional amounts of coverage.

3. Renewability

These forms provide the insured guaranteed renewable group long term care coverage.

4. Applicability of Rate Increase

The new premium rates will be applied to all insureds under group policies that were situsedin your state except insureds under group policies situsedin your state that were issued certificates in a state that is an extraterritorial (ET) jurisdiction. These insureds are governed by the ET state's laws and regulations and will be included in that state for rate increase purposes. The new premium rates will also be applied to insureds issued in your state under associations or trusts situsedoutside of your state.

The premium increase contained in this memorandum will be applicable to all insureds of the policy forms and riders described in Section 1 as well as all future periodic buy-up offers.

5. Experience Study and Actuarial Assumptions

This section provides a summary of the results of the annual experience study, along with the resulting assumptions utilized in the projection model. These liability assumptions below are consistent with the assumptions being used in the Company's reserve adequacy and asset adequacy testing. It is noted that some actual to expected ("A/E") analysis tables in this section have A/E ratios other than 100%. In order to reduce year over year volatility, if A/E results from the experience study are within an internal target range, the assumption will not be revised from the prior year's assumption.

Morbidity Overview

CCC has a sizeable block of LTC policies with a robust and credible amount of claims experience. As such, the 2020 morbidity study used experience from 2009 to 2019 to develop frequency and severity (claim utilization, disabled life mortality, and claim recovery) assumptions. CCC assesses morbidity experience separately for the Individual Long-Term Care (ILTC) and Group Long-Term Care (GLTC) blocks of business. Furthermore, any variation in assumption by different policyholder characteristics (i.e. gender) is based on company experience where meaningful variation has existed and is expected to continue in the future. Assumptions are set at a granular level to provide the best possible fit to experience. A dynamic validation is then performed to ensure that assumptions provide a reasonable fit in

the aggregate. The dynamic validation was performed by modeling best-estimate assumptions with inforce liability data as of December 31, 2018 to see how well the assumptions would replicate actual historical experience.

For policyholders aged 85 and older, CCC has approximately over 350K exposure years and over 35K claims. For older attained ages with less credible data, CCC has set incidence, claim recovery and utilization assumptions using age bands where assumptions do not vary beyond a certain age threshold. Disabled life mortality varies by attained age and is based on a 2012 IAM mortality table for attained ages 0 to 100 and based on the maximum of 2000 Annuity and 2012 IAM for attained ages 100 and older. Impairment factors by attained age are applied to this table to account for the higher mortality rates associated with disabled lives compared to healthy lives.

Morbidity experience can vary by carrier to carrier based on policy language, claim adjudication practices and rate increase programs undertaken. None of these differences are captured in industry studies. Given the fact that CCC has credible and robust claims experience, assumptions were set entirely based on company experience and were not directly compared to industry data.

The ILTC block is past its peak so the number of new incurred claims has been slowing. GLTC is a younger block and the number of new incurred claims is expected to continue to increase over the next twenty to thirty years. Also, within the study period mentioned above, CCC has implemented ILTC and GLTC rate increase programs which have temporarily increased incidence due to anti-selection.

The amount of new incurred claim dollars has increased over the recent past due to increases in the cost of care. Incurred claim dollars are expected to continue to increase for both ILTC and GLTC over the near to mid-term.

CCC has granular assumptions which allows for variation in lapse rates. One variation that is worth noting is the assumption that lapse rates are expected to be lower for policies with richer benefits (i.e. policies with longer benefit periods and with contractual ABI). Therefore, as the block ages, there is an expectation that the policies that persist will naturally have longer lengths of stay with higher severity as the mix shift changes over time. Also assumed in the claim utilization assumption is an expectation of rising cost of care inflation which will also lead to higher severity of claims over time.

Claim Incidence

The frequency of claim is the probability that a healthy insured will go into disabled status, also known as ‘claim incidence’. The final incidence rate that gets modeled is comprised of a base incidence table, adjustment factors based on policy features and demographics, and adjustments for policyholder behavior to rate actions.

Base Incidence Actual to Expected Analysis

The below table summarizes the results of the experience study for GLTC base incidence rates, which includes experience over the past nine years:

Best-Estimate Incidence A/E Results Group Long Term Care						
Calendar Year	Exposures (Years)	Actual Claims	Expected Claims	Actual Incidence Rate	Expected Incidence Rate	Actual / Expected
2010	222,842	450	449	0.20%	0.20%	100%
2011	223,014	454	499	0.20%	0.22%	91%
2012	221,789	501	552	0.23%	0.25%	91%
2013	226,069	591	609	0.26%	0.27%	97%
2014	222,753	637	668	0.29%	0.30%	95%
2015	218,812	726	734	0.33%	0.34%	99%
2016	208,305	987	816	0.47%	0.39%	121%
2017	189,855	884	901	0.47%	0.47%	98%
2018	162,715	958	946	0.59%	0.58%	101%
2019	152,128	949	974	0.62%	0.64%	97%
Total	**2,048,281**	**7,137**	**7,149**	**0.35%**	**0.35%**	**100%**

Base Incidence Assumption

The base incidence rates are single-dimensional tables that vary by attained age. These base incidence tables vary by the following:

- Whether the policy covers comprehensive or facility only benefits
- The situs of the claim (Nursing Home or Home Health Care)
- Gender

A sample table is shown below:

Product: GLTC
Plan Type: Comprehensive
Situs: Nursing Home
Gender: Male

Attained Age	Annual Incidence Rate (%)
44 and Prior	0.0022%
45	0.0026%
46	0.0031%
47	0.0037%
…	…
55	0.0137%
56	0.0162%

57	0.0191%
…	…
65	0.0714%
66	0.0842%
67	0.0993%
…	…
75	0.4059%
76	0.4854%
77	0.5804%
…	…
85	2.4087%
86	2.8756%
87	3.4324%
…	…
95	6.9527%
96 to 120	7.5603%

Incidence Rate Adjustment Factors

There are a number of incidence rate adjustment factors that are applied to adjust the base incidence tables for various policy features. The annual experience study reviews these adjustment factors and provides updates as needed. These assumptions were determined by applying scalars to the prior year assumption to bring the A/E ratio close to 100%. Note that 2017 and 2018 experience was not used because of suspected anti-selection from rate increases. The incidence adjustment factors are shown below:

Category	Variable/Benefit Feature	Adjustment Factor
Underwriting Class	Group	1.0648
Elimination Period	0 Days	1.0000
	All Others	0.8068
Benefit Period	Lifetime	1.2418
	Non-Lifetime	1.0000
Tax Status	Tax Qualified	0.8366
	Non-Tax Qualified	1.0000

Temporary Anti-Selection Overview

As part of the company's annual experience study, the relationship between premium rate actions and incidence rates were developed into an assumption set. At any time, there is a subset of

policyholders that already qualify for their long term care benefits, but have not utilized the policy. When a rate increase notification is received, some of these policyholders will go on claim to avoid paying the increased premium, since their premium rates will be waived. This phenomenon is known as anti-selection or 'shock morbidity'.

With more accurate notification date data and implementing distributed exposures, a cleaner cut of pre-rate increase and post-rate increase periods could be investigated. Ultimately, this analysis suggested a durational impact of 1 year and severity of 17% for GLTC. ***Future Incidence Improvement (i.e. Morbidity Improvement)***

No future incidence improvement is assumed.

Model Calibration

The morbidity assumptions are intended to reflect the best-estimate of the long term. Long-Term Care policies are complex and have multiple decrements. Assumptions are developed independently and when combined in the model, they do not always produce results that seem reasonable. Model calibration is performed when necessary to fit the model to the long term view.

A dynamic validation was performed by modeling our best-estimate assumptions with inforce liability data as of December 31, 2018 to see how well the assumptions would replicate actual historical experience. This analysis was performed separately for ILTC and GLTC. Based on how well the model 'fits' actual claims experience, additional incidence calibration factors are applied as follows:

Calendar Year	Group Calibration Factor
2019	1.1000
2020	1.0833
2021	1.0667
2022	1.0500
2023	1.0333
2024	1.0167
2025+	1.0000

Claim Severity

In the projection system, the severity of claim is the associated length and cost of a claim once an insured becomes disabled (or is already disabled). The severity of a claim is driven by three key assumptions:

- Recovery
- Utilization

- Disabled Life Mortality

A further breakdown of these three components is described below.

Recovery Overview

Once an insured is on claim, there is an associated probability that the insured will recover back in to a 'healthy' status prior to death or exhausting benefits. This is the recovery rate assumption in the projection model.

Recovery Actual to Expected Analysis

The below table summarizes the results of the experience study for GLTC recovery rates, which includes experience over the past five years:

Best-Estimate Recovery A/E Results Group Long Term Care									
Calendar Year	Actuals			Current Claims			Future Claims		
	Exposures (Months)	Actual Recoveries	Actual Recovery Rate	Expected Recoveries	Expected Recovery Rate	Actual / Expected	Expected Recoveries	Expected Recovery Rate	Actual / Expected
2015	1,900	129	6.8%	162	8.5%	79%	161	8.5%	80%
2016	2,172	178	8.2%	179	8.2%	101%	182	8.4%	98%
2017	2,356	219	9.3%	184	7.8%	119%	187	7.9%	117%
2018	2,472	178	7.2%	186	7.5%	96%	186	7.5%	96%
2019	2,624	208	7.9%	191	7.3%	109%	190	7.2%	110%
Total	**11,523**	**912**	**7.9%**	**903**	**7.8%**	**102%**	**906**	**7.9%**	**101%**

Recovery Assumption

The recovery tables are two-dimensional tables that vary by age of disability and disability duration. The first five years of the tables contain monthly rates and are annual thereafter. The recovery tables vary by the following:

- Benefit period (lifetime, non-lifetime)
- Gender
- The situs of the claim (Nursing Home, Home Health Care)
- Diagnosis of the claim (for insureds currently on claim)
- Tax-Qualified Status (tax-qualified, not tax-qualified)
- Elimination Period (0, 0-89, 90+)

Insureds that are currently in claim status have a known situs of care, so the recovery rates will be different than a policy currently in healthy status, since the future claim situs is unknown.

A sample table is shown below for sample ages of disablement (rates shown are on a monthly basis):

Product: GLTC
Insured Status: Healthy
Benefit Period: Lifetime
Gender: Female
Inflation Type: Compound
Restoration of Benefits: No
Situs: Nursing Home (original, since policy is healthy)
Tax-Qualified Status: Not tax-qualified
Elimination Period: 1-89 days

Disability Month	Disablement Age			
	65	75	85	95
1	0.83%	0.58%	0.41%	0.35%
2	2.54%	1.78%	1.25%	1.06%
3	1.64%	1.15%	0.81%	0.68%
4	2.22%	1.56%	1.09%	0.93%
5	1.92%	1.35%	0.95%	0.80%
6	1.13%	0.80%	0.56%	0.47%
7	1.16%	0.81%	0.57%	0.48%
8	0.74%	0.52%	0.36%	0.31%
9	0.53%	0.37%	0.26%	0.22%
10	0.47%	0.33%	0.23%	0.20%
11	0.43%	0.30%	0.21%	0.18%
12	0.40%	0.28%	0.20%	0.17%
…	…	…	…	…

Utilization Overview

The utilization assumption in the model for expense reimbursement policies represents the amounts, or severity, of paid claims and includes components for cost of care, coverage available and the intensity of care (“health trend”). The inflated available benefit is also considered by capping paid claims at the inflated daily benefit amount.

Expense reimbursement refers to policies that are reimbursed up to the maximum daily benefit. They are considered separately from indemnity policies because indemnity policies pay the full maximum daily benefit. Expense reimbursement claim amounts are affected by cost of care inflation, intensity of care (referred to as “health trend”), and the amount of initial coverage purchased.

Health trends represent the intensity of care needed for claimants. Health trend is the ratio of inflation-adjusted paid claims divided by initial available benefits:

$$Health\ Trend = \frac{\frac{Paid\ Claim}{(1 + CostOfCare\ Inflation)^{(Experience\ Year - Issue\ Year)}}}{Initial\ Available\ Benefits}$$

Indemnity policies have separate utilization assumptions from expense reimbursement policies because they pay their full available benefits and are not dependent on cost or intensity of care. Although indemnity policies pay the full maximum daily benefit, utilization rates are still below 100% because insureds are not in facilities 100% of the time. For example, if an insured is only in a facility 28 out of the 30 days in each month, then they would have a utilization rate equal to 28/30 = 93%. This is because benefit periods are based on service days and not strictly calendar days.

The utilization cost of care assumption is based on statutory valuation assumptions.

Utilization Actual to Expected Analysis

The below table summarizes the results of the experience study for GLTC utilization rates, which includes experience over the past seven years:

Best-Estimate Utilization A/E Results
Group Long Term Care

Calendar Year	Current Claims						Future Claims					
	Maximum Available Benefit ($millions)	Actual Paid Claims ($millions)	Actual Utilization Rate	Expected Paid Claims ($millions)	Expected Utilization Rate	Actual / Expected	Maximum Available Benefit ($millions)	Actual Paid Claims ($millions)	Actual Utilization Rate	Expected Paid Claims ($millions)	Expected Utilization Rate	Actual / Expected
2013	81	41	51%	41	51%	100%	81	41	51%	43	53%	96%
2014	92	48	52%	47	51%	101%	92	48	52%	49	54%	97%
2015	104	54	51%	55	53%	97%	104	54	51%	57	54%	95%
2016	121	60	50%	61	51%	99%	121	60	50%	63	52%	96%
2017	136	70	51%	71	52%	98%	136	70	51%	74	54%	94%
2018	147	76	52%	78	53%	98%	147	76	52%	82	56%	92%
2019	160	85	53%	86	54%	99%	160	85	53%	92	57%	93%
Total	**841**	**433**	**51%**	**439**	**52%**	**99%**	**841**	**433**	**51%**	**460**	**55%**	**94%**

Utilization Assumption

The health trend component of utilization tables are two-dimensional tables that vary by age of disability and disability duration. The first five years of the tables contain monthly rates and are annual thereafter. These tables vary by the following:

- Benefit Period (lifetime, non-lifetime)
- Inflation Type (with inflation vs. without inflation)

- Home health care percentage (0%, 1%-50%, 50%-75%, 75%+)
- The situs of the claim (Nursing Home or Home Health Care)
- Diagnosis of the claim (for insureds currently on claim)

Insureds that are currently in claim status have a known situs of care, so the utilization rates will be different than a policy currently in healthy status, since the future claim situs is unknown.

A sample health trend table is shown below for sample ages of disablement (rates shown are on a monthly basis):

Product: GLTC
Insured Status: Disabled
Benefit Period: Non-Lifetime
Inflation Type: Compound
Home Health Care Percentage: N/A (since situs is not home health care)
Situs: Nursing Home (original, since policy is healthy)
Tax-Qualified Status: Not tax-qualified
Elimination Period: 1 to 89 days

Disability Month	Disablement Age			
	65	75	85	95
1	85.00%	89.00%	91.00%	95.00%
2	65.00%	67.00%	69.00%	72.00%
3	43.00%	45.00%	46.00%	48.00%
4	44.00%	46.00%	47.00%	49.00%
5	53.00%	55.00%	57.00%	59.00%
6	58.00%	60.00%	62.00%	64.00%
7	58.00%	60.00%	62.00%	64.00%
8	58.00%	61.00%	62.00%	65.00%
9	60.00%	62.00%	64.00%	67.00%
10	62.00%	64.00%	66.00%	69.00%
11	62.00%	65.00%	67.00%	69.00%
12	64.00%	67.00%	69.00%	71.00%
…	…	…	…	…

Cost of care inflation rates vary by inflation type (simple, compound, none). A sample table is shown below:

Product: GLTC
Inflation Type: Compound

Calendar Year	Cost of Care Inflation Rate

2017 and Prior	4.25%
2018	4.64%
2019	4.29%
2020	3.74%
2021	3.80%
2022	3.85%
2023	3.91%
2024	4.02%
2025	4.12%
2026	4.23%
2027	4.34%
2028	4.45%
2029	4.56%
2030 and Later	4.66%

Disabled Life Mortality Overview

Once an insured is on claim, there is an associated probability that the insured will decrement due to death, which influences the overall length of a claim. Generally, the probability of death from a currently disabled insured is greater than the probability associated with a currently healthy insured, so separate assumptions are developed and modeled.

Disabled Life Mortality Actual to Expected Analysis

Best-Estimate Disabled Mortality A/E Results Group Long Term Care (Target Range = 98% - 102%)									
Calendar Year	Actuals			Current Claims			Future Claims		
	Exposures (months)	Disabled Deaths	Disabled Mortality Rate	Expected Disabled Deaths	Expected Disabled Mortality Rate	Actual / Expected	Expected Disabled Deaths	Expected Disabled Mortality Rate	Actual / Expected
2015	1,895	429	22.60%	425	22.40%	101%	426	22.50%	101%
2016	2,162	530	24.50%	509	23.50%	104%	503	23.30%	105%

2017	2,342	578	24.70%	558	23.80%	104%	548	23.40%	105%
2018	2,451	568	23.20%	587	23.90%	97%	577	23.50%	98%
2019	2,597	628	24.20%	631	24.30%	99%	620	23.90%	101%
Total	**11,447**	**2,733**	**23.90%**	**2,710**	**23.70%**	**101%**	**2,674**	**23.40%**	**102%**

The below table summarizes the results of the experience study for GLTC disabled mortality rates, which includes experience over the past five years: The following tables illustrate the appropriateness of the proposed 2020 best estimate assumptions:

Disabled Life Mortality Assumption

The disabled life mortality rates are two-dimensional tables that vary by age of disability and disability duration. Similar to the other severity assumptions, the first five years of the tables contain monthly rates and are annual thereafter. The disabled life mortality tables vary by the following:

- Benefit period (lifetime vs non-lifetime)
- The situs of the claim (Nursing Home or Home Health Care)
- Gender
- Diagnosis of the claim (for insureds currently on claim)

Insureds that are currently in claim status have a known situs of care, so the disabled life mortality rates will be different than a policy currently in healthy status, since the future claim situs is unknown.

A sample table is shown below for sample ages of disablement (rates shown are on a monthly basis):

Product: GLTC
Insured Status: Healthy
Benefit Period: Non-Lifetime
Situs: Nursing Home
Gender: Male
Diagnosis: N/A (since status is healthy)

Disability Month	Disablement Age			
	65	75	85	95
1	1.38%	2.03%	2.30%	2.73%
2	1.85%	2.71%	3.08%	3.66%
3	2.01%	2.96%	3.36%	3.99%
4	2.36%	3.47%	3.94%	4.68%

5	2.93%	4.29%	4.88%	5.79%
6	2.19%	3.21%	3.65%	4.34%
7-12	2.34%	3.44%	3.91%	4.64%
13-18	1.37%	2.02%	2.33%	2.87%
19-24	1.44%	2.13%	2.45%	3.02%
25-36	1.67%	2.44%	2.85%	3.72%
37-48	1.83%	2.62%	3.09%	4.28%
49-60	1.95%	2.69%	3.20%	4.75%
…	…	…	…	…

Transitions of Situs

Because the current projection model does not model future claim transitions, additional adjustments are made to disabled mortality, recovery, and utilization to produce smoother claim development. The following factors are applied to group.

Additional Adjustment Factors – Group Disabled Life Mortality & Recovery						
By Disability Month						
1-12	13-24	25-36	37-48	49-60	61-72	>72
1.00	1.00	1.00	1.00	1.00	0.80	0.75

Additional Adjustment Factors – Group Utilization							
Payment Type	By Disability Month						
	1-12	13-24	25-36	37-48	49-60	61-72	>72
Expense Incurred	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Indemnity	1.05	1.05	1.05	1.05	1.05	1.05	1.05

Persistency

In the projection system, the persistency assumptions relate to the probability that insureds not on claim will lapse or die. Insured reduced benefit options are considered part of the persistency assumption and are modeled as partial lapses in the projection system. Persistency assumptions include the following components:

- Healthy Life Mortality

- Healthy Life Mortality Improvement
- Shock Mortality
- Base lapse
- Shock lapse
- Reduced Benefit Option (RBO) Assumptions
- Lapse due to direct bill migration
- Voluntary Lapse

A further breakdown of these components is described below.

Healthy Life Mortality

Deaths from insureds not on claim. This includes estimated under-reported deaths, which are an allocation of lapses for policyholders age 70 and older to deaths.

Healthy Life Mortality Actual to Expected Analysis

The below table summarizes the results of the experience study for GLTC healthy life mortality rates, which includes experience over the past seven years:

Best-Estimate Healthy Life Mortality A/E Results Group Long Term Care						
Calendar Year	**Exposures (Years)**	**Actual Deaths**	**Expected Deaths**	**Actual Death Rate**	**Expected Death Rate**	**Actual / Expected**
2013	226,252	1,209	1,287	0.53%	0.57%	94%
2014	222,970	1,321	1,369	0.59%	0.61%	97%
2015	218,995	1,294	1,305	0.59%	0.60%	99%
2016	208,374	1,355	1,362	0.65%	0.65%	100%
2017	189,928	1,333	1,273	0.70%	0.67%	105%
2018	162,713	1,192	1,209	0.73%	0.74%	99%
2019	152,072	1,362	1,175	0.90%	0.77%	116%
Total	**1,381,305**	**9,065**	**8,980**	**0.66%**	**0.65%**	**101%**

The base healthy life mortality tables are one-dimensional tables based on the 2012 IAM mortality tables (ages greater than 100 use the maximum of the 2000 Annuity table and the 2012 IAM table). There are additional multipliers to these base tables based on the company's experience, which vary by attained age band, product, and gender.

The Overall factor calibrates the overall level of the assumptions to match experience in the aggregate.

The Calendar Year factors are set to flatten the A/E curve and maintain a total A/E of 100%.

The table below summarizes the factors selected:

Healthy Life Mortality Factors		
Category	Variable/Benefit Feature	Adjustment Factor
Overall		0.82
Attained Age	0-59	0.68
	60-64	0.61
	65-69	0.60
	70-74	1.14
	75-79	1.07
	80-84	0.93
	85-89	0.83
	90-94	0.91
Product & Gender	GLTC - Female	1.20
	GLTC - Male	1.34
Calendar Year	2014 & Prior	1.00
	2015	0.90
	2016	0.90
	2017	0.85
	2018	0.85
	2019	0.80
	2020	0.70
	2021	0.70
	2022	0.70
	2023	0.75
	2024	0.80
	2025	0.85
	2026	0.90
	2027	0.95
	2028+	1.00

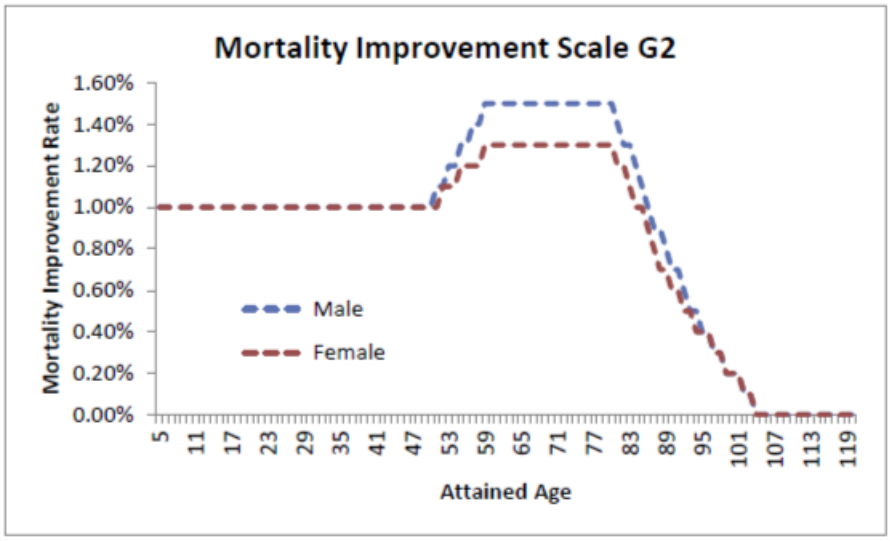
Also, due to lack of credibility at the older ages, the assumptions grade linearly from 100% of the best estimate assumption at age 95, to 100% of the 2012 IAM/Annuity 2000 table at ages 105 and later. This method gives more weight to the credible company experience between ages 90 and 94. The method produces a smooth assumption for each combination of product, gender, and underwriting class. And it is consistent with the pattern of actual experience.

Healthy Life Mortality Improvement

A healthy life mortality improvement factor is applied to the base healthy mortality table to reflect the improvement of population mortality over time. Consistent with the prior year's analysis, the

Mortality Improvement Scale G2 table was used in this year's analysis. The timing of mortality improvement was set to start on the center of the experience study period where dis-improvement was assumed to occur in prior years. Consistent with historical practice, mortality improvement was assumed to occur from 2017 to 2026.

An example is shown below for reference:



Shock Mortality

Due to policyholders going on claim as a result of shock incidence, it is theorized that these people are the less healthy policyholders not on claim. This causes an artificially lower healthy life mortality rate as these people are now moved to disabled life mortality assumption, leaving a temporarily healthier population within the healthy life pool of policyholders.

Base lapse

Lapses in absence of direct-bill migration and rate increases.

Shock lapse

Lapses in excess of base lapse in response to a rate increase. Shock lapses are estimated to isolate base lapses.

Reduced Benefit Option (RBO) Assumptions

Represents the impact of policyholders choosing to reduce benefits in response to a rate increase.

Lapse due to direct bill migration

High lapses for GLTC in response to moving policyholders from payroll deduction to direct bill payment type. During assumption setting, estimates are made for direct bill migration lapse to exclude them from the development of lapse and mortality assumptions. There is no best estimate assumption for direct bill migration lapse since most groups will have been migrated to direct bill migration by 9/30/2020.

Voluntary Lapse

The voluntary lapse assumption reflects the probability associated with an insured voluntarily canceling their policy. The voluntary lapse rates differ from shock lapse rates in that the policy cancelation is not due to a rate increase notification.

Voluntary Lapse Actual to Expected Analysis

The below table summarizes the results of the experience study for GLTC voluntary lapse rates, which includes experience over the past seven years:

Best-Estimate Voluntary Lapse A/E Results Group Long Term Care						
Calendar Year	**Exposures (Years)**	**Actual Lapse**	**Expected Lapse**	**Actual Lapse Rate**	**Expected Lapse Rate**	**Actual / Expected**
2013	230,642	9,903	9,577	4.29%	4.15%	103%
2014	226,775	8,833	8,519	3.90%	3.76%	104%
2015	223,794	8,833	7,613	3.85%	3.40%	113%
2016	214,772	8,627	6,552	3.14%	3.05%	103%
2017	198,103	6,742	5,126	2.67%	2.59%	103%
2018	167,143	5,293	3,421	3.37%	2.05%	164%
2019	153,958	5,625	2,730	1.83%	1.77%	103%
Total	**1,415,187**	**47,837**	**43,538**	**3.38%**	**3.08%**	**110%**

Voluntary Lapse Assumption

The voluntary lapse assumptions are one-dimensional tables that vary by policy duration. The voluntary lapse tables vary by the following:

- Benefit period (lifetime or non-lifetime)
- Inflation type (inflation protection or no inflation protection)
- Timing adjustment (‘Skew lapse’) to align modeled lapse behavior with CNA’s billing practices
- Limited pay adjustment to set lapse rates to zero beyond premium payment dates (10 Pay, Age 65, 20 Pay and 25 Pay)

A sample voluntary lapse table is shown below:

Product: GLTC
Benefit Period: Lifetime
Inflation Type: Compound

Policy Duration	Voluntary Lapse
1	8.60%
2	6.60%
3	5.60%
4	5.00%
5	4.50%
6	4.05%
7	3.65%
8	3.30%
9	2.95%
10	2.60%
11	2.30%
12	2.05%
13	1.77%
14	1.49%
15	1.21%
16+	0.93%

Shock Lapse and Reduced Benefit Option

In 2020, the shock lapse and RBO assumptions were combined into one assumption that accounted for additional lapses above base lapses. Given the increased transparency in providing alternatives in lieu of paying the rate increase for older products, it assumed that that shock and RBO behavior will be similar between individual products.

In setting the 2020 assumption, it was decided that a 50% reduction in the 2019 assumption would be used. Given that remaining policyholders have persisted through all previous rounds of rate increases, it is expected that the future likelihood of policyholders to elect the RBO option or lapse is less likely. Therefore, the assumption should reflect diminishing impact from shock lapses and RBOs.

Additionally, due to projection modeling limitations, it is not possible to model future contingent or increased contingent non-forfeiture upon a lapse from a rate increase. Decreasing the shock lapse and RBO assumption provides a provision for funding the paid-up policy reserves once established on an ongoing basis..

6. Discount Rate

The inforce count-weighted average maximum statutory valuation interest rate for contract reserves is used to accumulate past actual experience and discount future expectations, 4.35%.

7. Expenses

This filing is based on loss ratios and expense levels have not been considered. Commissions are not paid on rate increase premiums.

8. Marketing Method

These policies were sold directly to employer groups, through benefit consultants, or non-captive agents.

9. Underwriting Description

Actively-at-work employees were guaranteed issue during open enrollment periods; otherwise they were subject to short-form underwriting.

Generally, spouses of actively-at-work employees were subject to short-form underwriting. However, in some cases spouses were allowed to enter subject to a simple ADL screen, conditional upon the actively-at-work employee also enrolling. This practice was generally phased out in the late 1990's.

All other eligible classes of insureds, such as parents and retirees, were subject to long-form underwriting.

Various underwriting tools in addition to the application may have included medical records, an attending physician's statement, telephone interviews, and/or face-to-face assessments.

The distribution of the inforce certificates by underwriting type at original issue is provided below:

Underwriting Type	Inforce at Dec. 31, 2020
Guaranteed Issue	83.2%
Short-Form	13.7%
Long-Form	3.1%

10. Premiums

Premiums are unisex and payable for life unless the insured selected a limited pay option. Only 0.6% of insureds inforce as of December 31, 2020 elected a limited pay option. Premiums are level except for a limited number of groups where premiums may increase annually, indexed to a 5% annual benefit

inflation rate. Premiums may vary by issue age, elimination period, benefit period / lifetime maximum, initial daily benefit amount, and level of home health care coverage, ABI option, premium mode, underwriting class, marital status, group size, and the selection of any other options or riders.

11. Modal Premium Factors

The following modal factors remain unchanged and are applied to the annual premium to obtain the modal premium.

Payment Mode	P1-43636-A and SR-LTCP-Series	Nationwide Premium Distribution at Dec. 31, 2020
Annual	1.000	18.5%
Semi-Annual	0.520	9.0%
Quarterly	0.270	40.9%
Monthly	0.090	30.6%
Semi-Monthly	0.045	0.0%
Bi-Weekly	0.090*(12/26)	1.0%
Weekly	0.090*(12/52)	0.0%

12. Issue Age Range

Issue ages range from 17 to 90.

13. Area Factors

Area factors are not used for these policy forms.

14. Average Annualized Premium

The average annualized premium for the policy forms subject to the rate increase request, both before and after the impact of the requested rate increase, is included in Exhibit 1.

15. Number of Insureds

The current number of insureds as of December 31, 2020 can be found in Exhibit 1.

16. Distribution of Business

The historical experience reflects the actual distribution of insureds during the experience period. The current distribution of business as of December 31, 2020 was used to project future experience. Exhibit 2 contains the distribution of the inforce insureds by key demographic and benefit characteristics.

17. Claim Liability and Reserves

Active life reserves have not been used in this rate increase analysis. Claim reserves as of December 31, 2020 have been discounted to the incurral date of each respective claim and included in historical incurred claims. Incurred but not reported reserve ("IBNR") balances and terminated but not reported reserve ("TBNR") balances as of December 31, 2020 have been allocated to a calendar year of incurral and included in historical incurred claims.

18. Trend Assumptions

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

19. Experience – Past and Future

Earned premiums and incurred claims, projected through 2079 are developed from a first-principles actuarial model representing actual contracts in-force as of December 31, 2020. The assumptions described in Section 5 are used to project earned premiums and incurred claims.

Waived premiums are not included as premiums nor claims in either the actual historical or the projected future experience.

Historical results reflect earned premium by calendar year with claims captured by incurral year. That is, incurred claims for a calendar year represent all payments through December 31, 2020 for a claim incurred in a particular calendar year plus any claim reserve held as of December 31, 2020. Incurred claims also include IBNR and TBNR held as of December 31, 2020.

Exhibit 3 presents nationwide experience, with the earned premium restated with your state's prior rate increase approvals, for all forms affected by this rate increase to ensure maximum credibility.

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

A lifetime loss ratio as of December 31, 2020 is calculated as the sum of accumulated past experience and discounted future experience using the nationwide inforce count-weighted average maximum statutory valuation interest rate for contract reserves.

20. History of Rate Adjustments

See Exhibit 1 for a history of prior rate adjustments in your state.

21. Ensuring No Cross-Subsidization Between States

We have ensured no state's rate increase approvals will subsidize other states' experience. Rate increase requests will vary by state, but only to reflect the timing and amount of prior rate increases approved by that state. This is accomplished by first backing-out all prior rate increases from our nationwide premium data. We then reintroduce prior rate increases with the amount and timing based on your state's prior approvals (as referenced in Section 17). The current proposed rate increase(s) are then determined.

Although some states may have capped our previous inforce rate increase filings, it is the intention of CCC's management that subsequent filings will be submitted at a later date until an actuarially equivalent amount is achieved.

22. Requested Rate Increase and Demonstration of Satisfaction of Requirements

CCC is requesting a premium rate increase on all policy forms included in this filing, to be implemented over three years. The rate increase request varies by benefit feature, specifically the lifetime ABI benefit, as follows:

Benefit Feature	Requested Rate Increase (Y1, Y2, Y3)
Insureds without Standard Lifetime ABI	83.1% (70%, 7,7%)
Insureds with Standard Lifetime ABI	273.2% (70%, 70%, 29.1%)

Corresponding rate schedules reflecting the increase are included with this filing. CCC will continue to monitor the experience of this block and take appropriate actions when necessary.

Note that the actual rates implemented may vary slightly from those filed due to implementation rounding algorithms.

Satisfaction of minimum required loss ratio requirements is demonstrated in Exhibit 1. This approach shows that with the requested rate increase, the expected lifetime loss ratio exceeds the minimum loss ratio requirement.

Exhibit 4 included with this memorandum provides a demonstration that the requested rate increase meets the {58/85} test required by your state's rate stability regulation.

The historical and future projected incurred claims in the 58/85 test were increased by 10% from the best estimate projections to reflect assumptions that include moderately adverse conditions (equates to a 10% deterioration in the lifetime loss ratio). Present and accumulated values in the demonstration are determined at the average maximum valuation interest rate for contract reserves over the issue period.

This memo certifies that these rates with the full rate increase will be sufficient under moderately adverse conditions. Moderately adverse is defined as a 10% deterioration in the lifetime loss ratio (i.e. Lifetime Loss Ratio x 1.1).

23. Proposed Effective Date

The rate increase will apply to certificates on their next premium due date following a notification period at least as long as required by your state following approval. No insured will receive more than one increase in a 12 month period.

24. Relationship of Renewal Premium to New Business Premium

CCC is no longer selling any new long term care business. Therefore, the comparison of renewal premium rates after the rate increase to the Company's current new business premium rate schedule is not applicable.

25. Actuarial Certification

I am an Associate of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Academy's qualification standards to render this actuarial opinion and am familiar with the filing requirements for long term care insurance premium and rate increases.

This memorandum has been prepared in conformity with all applicable Actuarial Standards of Practice ("ASOP"), including, but not limited to, the following:

- ASOP 7, "Analysis of Life, Health, or Property/Casualty Insurer Cash Flows";
- ASOP 8, "Regulatory Filings for Health Benefits, Accident and Health Insurance, and Entities Providing Health Benefits";
- ASOP 18, "Long Term Care Insurance";
- ASOP 23, "Data Quality"; and
- ASOP 41, "Actuarial Communications".

I have relied upon policy and claim information extracts, as of December 31, 2020, which contain a seriatim listing of all insureds covered under CCC Long Term Care insurance contracts. I have also relied upon associated paid premium extracts providing details of payment dates and amounts. I have also relied upon associated paid claim extracts providing details by claim regarding payment dates, service dates, benefit types and payment amounts. This information was provided by CCC's Long Term Care Operations team in partnership with our Third Party Administrator.

I have relied upon statutory reserves as of December 31, 2020, for Claims Reserves, Incurred but Not Reported reserves, and Terminated but Not Reported Reserves, provided by CCC's Long Term Care Finance and Reserving team.

I have relied upon actuarial assumptions developed by CCC's Long Term Care Projections and Experience Studies team, which develops assumptions primarily for asset and reserve adequacy analysis, under the direction of the opining actuary, John Munro, FSA, MAAA, who approved those

assumptions in collaboration with other CCC Long Term Care actuaries, including Inforce Management actuaries. These assumptions present the actuary's best judgement, as of December 31, 2020. We have reviewed these assumptions for reasonableness and consistency for use in this filing.

I have reviewed and considered the policy design and benefits, as well as the company's underwriting and claims adjudication processes, when developing the filed rates.

I hereby certify that, to the best of my knowledge and judgement, this rate filing is in compliance with the applicable laws and regulations of your state. In my opinion, the actuarial assumptions are appropriate and the rates are neither excessive nor unfairly discriminatory.

Once the revised premium rate schedule is implemented and the underlying assumptions, which reflect moderately adverse conditions, are realized, no further premium rate schedule increases are anticipated.

Louis Scarim, ASA, MAAA
Actuarial Consulting Director, LTC Inforce Management
(312) 822-6179
louis.scarim@cna.com

December 8, 2021

Date

26. Exhibit Listing

- Exhibit 1: State Specific Information
- Exhibit 2: Distribution of Inforce Insureds
- Exhibit 3: Nationwide Experience and Projections
- Exhibit 4: Nationwide 58/85 Test