John Hancock Life Insurance Company (U.S.A.)
Actuarial Memorandum for Inforce Rate Increase – Custom Care II Series
April 26, 2023

Product Name	Form Number	Issue Date Range
Custom Care II	LTC-03 MD	Mar 2004 - Dec 2009
Essential Care II	BSC-03 MD	Jun 2004 - Mar 2007

These policy form rates were originally priced with a margin for moderately adverse experience in accordance with the NAIC model rate stability regulations which were being implemented on a State by State basis during the time of our initial rate filing.

1. Scope & Purpose

This memorandum consists of materials which support the development of new premium rates for the above captioned policy series forms. The purpose of this memorandum is to demonstrate that the requirements of this State in regards to an in force rate increase request have been met. This rate filing is not intended to be used for any other purpose.

2. Justification for Rate Increase

John Hancock has completed our most recent triennial comprehensive long-term care experience study which examines the usage trends for our insured population. Relative to previous expectations, the new data demonstrates lower mortality for non-claimants, higher utilization of benefits, and lower than expected claim terminations, partly offset by lower claim incidence. Based on that data, we have determined that there is a need to increase premiums on certain policy series. Further detail on assumptions and recent analysis is provided in **Addendum #1 - Assumptions and Analysis Performed**.

3. Requested Rate Increase

The Company is requesting an average rate increase of 80.6%, which varies by issue age, benefit period, and inflation option, and ranges from 62.7% to 121.7%. Rate increases were derived as outlined below, ensuring at each step that the proposed rate increases did not result in premium rates that exceed rates for older issue ages:

1. The Company first determined the projected lifetime loss ratio for this form based on nationwide actual experience and projected future experience assuming the prior rate increase request was approved in full and within three months of the original filing date. We then determined the amount of rate increase (58.5%) that would be needed in order to revert to the applicable lifetime loss ratio certified to in our prior filing for this form restated for the removal of waived premiums (88.3%).
2. Rate increases were adjusted to account for the timing of approvals on prior filings and delayed implementation due to a multi-year phase-in of the prior rate increase in your State. Adjustments are proportional to the amounts requested in prior filings and were determined such that the achieved lifetime loss ratio matches that targeted in Step #1 above. After the application of this adjustment, the average rate increase for the forms listed in this memo is 61.2%, ranging from 59.8% to 63.5%.
3. Unapproved rate increases initially requested in our 2016 inforce rate filings (SERFF Tracking No. MULF-132013798) were included in this filing. These rate increases continue to be actuarially justified and are unchanged from our original request with the following exception: to account for the delayed implementation of the originally-requested rate increases, we have adjusted the portion of the current proposed rate increases attributable to the 2016 remainder so that on a present-value basis it is equivalent to implementing our original request all at once. After taking the unapproved amount into account and applying this adjustment, the average rate increase for the forms listed in this memo is 80.6%, ranging from 62.7% to 121.7%.

4. We ensured that the resulting overall increase in rates satisfied the rate stability rule ensuring a loss ratio no less than 85% (or the original pricing loss ratio if greater) on the rate increase portion, while applying 58% (or the original pricing loss ratio if greater) on the original rate schedule. This is demonstrated at the bottom of Exhibit 1 where it can be seen that the sum of past and future projected incurred claims excluding past losses is not less than the sum of the original premium times the greater of 58% and the original pricing loss ratio and the rate increase premium times the greater of 85% and the original pricing loss ratio.
5. In accordance with COMAR 31.14.01.04(A)(5), we are willing to phase-in the requested rate increase on an equivalent basis such that the maximum annual rate increase does not exceed 15%.

A summary of proposed rate increases can be found in **Appendix A.**

In the rate schedules by policy form, **Appendix B1** contains the new proposed rate tables for all policy forms included with this filing.

Please note that the actual rates implemented may vary slightly from those in the Appendices due to implementation rounding algorithms.

Exhibit 1 contains nationwide past premium and claims experience as well as future premium and claim projections. Waived premiums are not included. It illustrates that the anticipated lifetime loss ratio with the requested rate increase is 88.3%, which exceeds the original pricing loss ratio of 85.3%. The lifetime loss ratio as of 12/31/2021 is calculated as the sum of accumulated past and discounted future claims divided by the sum of accumulated past and discounted future earned premium where accumulation and discounting occur at the maximum statutory valuation discount rate.

Exhibit 1 also contains the original expected loss ratio projections, adjusted for the actual mix of business issued, with the lifetime loss ratio also calculated as stated above.

Furthermore, **Exhibit 1** demonstrates that the calculated loss ratio respects the applicable pre and post stability requirements:

<u>Post-stability form requirements:</u>
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 the greater of the original assumed lifetime loss ratio and 58%,
2. Accumulated value of prior premium rate schedule increases times the greater of the original assumed lifetime loss ratio and 85%,
3. Present value of future projected initial earned premium times the greater of the original assumed lifetime loss ratio and 58%, and
4. Present value of future projected premium in excess of the projected initial earned premium times the greater of the original assumed lifetime loss ratio and 85%.

<u>Pre-stability form requirements:</u>
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 the greater of the original assumed lifetime loss ratio and 60%,
2. Accumulated value of prior premium rate schedule increases times the greater of the original assumed lifetime loss ratio and 80%,
3. Present value of future projected initial earned premium times the greater of the original assumed lifetime loss ratio and 60%, and
4. Present value of future projected premium in excess of the projected initial earned premium times the greater of the original assumed lifetime loss ratio and 80%.

4. Nationwide Loss Ratio Exhibit (Exhibit 1)

Custom Care II (LTC-03) and Essential Care II (BSC-03)

		Original Assumptions			Historical & Projected Experience					
					Before Proposed Increase			With Proposed Rate Increase		
	Calendar Year	Incurred Claims	Earned Premium	Incurred Loss Ratio	Incurred Claims	Earned Premium	Incurred Loss Ratio	Incurred Claims	Earned Premium	Incurred Loss Ratio
	1988	-	-	0%	-	3,448	0%	-	3,448	0%
	1989	-	-	0%	-	3,448	0%	-	3,448	0%
	1990	-	-	0%	-	4,038	0%	-	4,038	0%
	1991	-	-	0%	-	5,212	0%	-	5,212	0%
	1992	-	-	0%	-	5,212	0%	-	5,212	0%
	1993	-	-	0%	-	9,311	0%	-	9,311	0%
	1994	-	-	0%	-	10,467	0%	-	10,467	0%
	1995	-	-	0%	-	12,687	0%	-	12,687	0%
	1996	-	-	0%	-	20,415	0%	-	20,415	0%
	1997	-	-	0%	-	20,415	0%	-	20,415	0%
	1998	-	-	0%	-	28,469	0%	-	28,469	0%
	1999	-	-	0%	-	42,180	0%	-	42,180	0%
	2000	-	-	0%	-	69,841	0%	-	69,841	0%
	2001	-	-	0%	-	111,735	0%	-	111,735	0%
	2002	-	-	0%	-	170,534	0%	-	170,534	0%
	2003	35	81,874	0%	-	436,906	0%	-	436,906	0%
	2004	275,225	33,268,372	1%	185,275	34,903,825	1%	185,275	34,903,825	1%
	2005	1,505,539	87,735,821	2%	1,876,273	89,377,495	2%	1,876,273	89,377,495	2%
Historical	2006	4,341,298	159,613,553	3%	5,523,449	162,403,384	3%	5,523,449	162,403,384	3%
Experience	2007	9,385,269	241,657,527	4%	8,596,124	246,099,073	3%	8,596,124	246,099,073	3%
	2008	16,342,841	261,288,851	6%	12,276,790	266,369,765	5%	12,276,790	266,369,765	5%
	2009	24,027,537	260,217,326	9%	18,895,606	266,384,684	7%	18,895,606	266,384,684	7%
	2010	31,336,656	252,059,257	12%	23,410,814	260,243,489	9%	23,410,814	260,243,489	9%
	2011	38,378,293	244,303,877	16%	30,774,144	252,831,260	12%	30,774,144	252,831,260	12%
	2012	45,109,357	237,189,031	19%	39,999,899	234,560,781	17%	39,999,899	234,560,781	17%
	2013	53,058,220	230,479,443	23%	44,643,021	249,661,902	18%	44,643,021	249,661,902	18%
	2014	62,292,449	223,905,820	28%	59,484,214	262,487,135	23%	59,484,214	262,487,135	23%
	2015	71,597,557	217,269,718	33%	70,920,919	259,944,158	27%	70,920,919	259,944,158	27%
	2016	80,966,014	210,430,749	38%	85,039,546	252,926,410	34%	85,039,546	252,926,410	34%
	2017	90,187,875	203,325,100	44%	104,114,792	249,633,802	42%	104,114,792	249,633,802	42%
	2018	100,790,288	195,961,024	51%	115,511,297	256,755,723	45%	115,511,297	256,755,723	45%
	2019	113,431,316	188,359,779	60%	125,122,754	255,622,302	49%	125,122,754	255,622,302	49%
	2020	127,363,304	180,562,806	71%	125,290,237	254,325,085	49%	125,290,237	254,325,085	49%
	2021	142,137,850	172,583,653	82%	207,981,388	256,748,163	81%	207,981,388	256,748,163	81%
Projected	2022	157,674,108	164,438,912	96%	216,774,421	255,765,047	85%	216,774,421	255,765,047	85%
Future	2023	174,816,327	156,165,248	112%	245,937,969	245,128,140	100%	245,937,969	245,128,140	100%
Experience	2024	193,438,993	147,803,227	131%	275,191,614	234,829,719	117%	271,889,315	395,856,478	69%
	2025	212,617,844	139,391,897	153%	306,419,776	224,298,436	137%	299,065,701	394,449,202	76%
	2026	231,564,826	130,971,632	177%	335,674,032	213,443,283	157%	327,617,855	375,070,634	87%
	2027	249,890,403	122,577,098	204%	365,752,534	202,314,539	181%	356,974,473	355,251,214	100%
	2028	267,436,667	114,243,798	234%	400,770,746	190,841,462	210%	391,152,248	334,863,884	117%
	2029	283,727,312	106,005,260	268%	435,373,509	179,027,853	243%	424,924,545	313,913,704	135%
	2030	297,989,954	97,903,048	304%	468,282,927	166,945,904	280%	457,044,137	292,527,855	156%
	2031	309,386,057	89,984,270	344%	498,280,316	154,691,719	322%	486,321,589	270,874,802	180%
	2032	317,838,951	82,289,089	386%	524,671,370	142,400,717	368%	512,079,257	249,191,339	205%
	2033	323,620,876	74,855,333	432%	546,508,381	130,205,945	420%	533,392,180	227,709,147	234%
	2034	326,839,624	67,717,566	483%	562,704,500	118,223,948	476%	549,199,592	206,630,673	266%
	2035	327,343,344	60,910,052	537%	573,325,536	106,541,031	538%	559,565,723	186,103,528	301%
	2036	324,414,678	54,470,382	596%	577,137,039	95,279,173	606%	563,285,750	166,338,253	339%
	2037	318,286,247	48,426,761	657%	573,393,325	84,548,219	678%	559,631,885	147,524,103	379%
	2038	308,851,017	42,799,322	722%	561,835,670	74,472,421	754%	548,351,614	129,875,472	422%
	2039	296,870,620	37,599,308	790%	545,760,721	65,172,536	837%	532,662,463	113,600,659	469%
	2040	283,105,842	32,830,959	862%	525,944,566	56,663,378	928%	513,321,897	98,721,891	520%

Note: Please refer to the Actuarial Memorandum, section "Ensuring No Cross-Subsidization Between States", for adjustments made to experience exhibits

Values as of 12/31/2021 (discounted at maximum statutory valuation rates)

	Incurred Claims	Earned Premium	Incurred Loss Ratio	Incurred Claims	Earned Premium	Incurred Loss Ratio	Incurred Claims	Earned Premium	Incurred Loss Ratio
Past :	1,261,849,242	5,236,645,164	24.1%	1,317,084,416	5,854,464,093	22.5%	1,317,084,416	5,854,464,093	22.5%
Future :	4,419,197,956	1,423,978,374	310.3%	7,307,756,216	2,345,177,814	311.6%	7,145,994,939	3,732,102,243	191.5%
Lifetime :	5,681,047,199	6,660,623,538	85.3%	8,624,840,632	8,199,641,907	105.2%	8,463,079,354	9,586,566,336	88.3%

Total Incurred Claims exceed Total Initial Premiums x max(58%, Original Pricing Loss Ratio) + Increased Premiums x max(85%, Original Pricing Loss Ratio)

			Accum Value of Past Initial Prm x 85.3% =	4,474,446,453
Minimum (Accum Value of Past Incurred Claims,			Present Value of Future Initial Prm x 85.3% =	1,191,499,621
Accum Value of Adjusted Expected Incurred Claims) =	1,317,084,416		Accum Value of Prior Increases x 85.3% =	519,002,981
Present Value of Future Incurred Claims =	7,145,994,939		Present Value of Future Increases x 85.3% =	1,991,723,222
Total =	8,463,079,354	>=	Total =	8,176,672,276

Total Incurred Claims exceed Total Initial Premiums x max(60%, Original Pricing Loss Ratio) + Increased Premiums x max(80%, Original Pricing Loss Ratio)

			Accum Value of Past Initial Prm x 85.3% =	4,474,446,453
Minimum (Accum Value of Past Incurred Claims,			Present Value of Future Initial Prm x 85.3% =	1,191,499,621
Accum Value of Adjusted Expected Incurred Claims) =	1,317,084,416		Accum Value of Prior Increases x 85.3% =	519,002,981
Present Value of Future Incurred Claims =	7,145,994,939		Present Value of Future Increases x 85.3% =	1,991,723,222
Total =	8,463,079,354	>=	Total =	8,176,672,276

5. Proposed Effective Date

New rates will not be effective until after the completion of prior rate increases for all policyholders with product forms listed in this memo. These rates will be effective on the next policy anniversary date after completion, following at least a 90 day policyholder notification period. The assumed effective date used to calculate the rate increase is 01/01/2024.

6. History of Previous Rate Revisions

A 14.9% rate increase on these policy forms was accepted by your state on September 13, 2012.

A 6.7% rate increase on these policy forms was accepted by your state on September 11, 2013.

A multi-year rate increase phase-in of 7.5% annually for two years on these policy forms was accepted by your state on April 13, 2018.

A multi-year rate increase phase-in for inflation policies only of 12% year one and 6% year two on these policy forms was accepted by your state on April 1, 2020.

7. Reduced Benefit Options (RBOs)

Although this is a closed block of business, we are filing the following option which will provide policyholders an alternative to the rate increase:

- ***LTC Buy-Out Offer and Policy Termination Option***
  We will be making an offer to buy-out policies which are active and paying premium. Policyholders who accept this offer will agree to receive a one-time, lump sum payment in exchange for the immediate termination of their policy and any riders.

  The LTC Buy-Out Offer Amount will be based on the best estimate value of the policy, determined by an actuarial calculation which takes into account several factors including morbidity, mortality, and interest rate assumptions. This offer will be available to policies issued prior to age 70. Additional details have been provided in **Addendum #3 – LTC Buy-Out Offer and Policy Termination Option Details**.

If the full or substantial portion of the rate increase request is approved and per the state's agreement, we will file the following additional options which provide policyholders alternatives to the rate increase:

- ***Inflation Landing Spots***
  Future inflation options (also referred to as "landing spots") allow policyholders that have Compound or Simple inflation coverage the option to offset the rate increase. Under these options, the policyholders get to keep their current accumulated Daily benefit and their current remaining Lifetime Maximum Benefit, but the future indexation rate will be reduced to a level which is actuarially equivalent to the requested rate increase in aggregate. These options are not available to limited pay policies or policyholders who have elected three prior inflation reductions.

- ***Shared Cost Option***

Shared Cost option is an actuarially equivalent option that allows policyholders the option to offset the rate increase. The Shared Cost option would:

- Reduce the policyholder's current policy benefit amounts by their Shared Cost percentage. The daily/monthly benefit and the policy limit will be reduced by the Shared Cost percentage
- Apply a percentage factor to any future claim payments equal to the Shared Cost percentage. John Hancock will pay our portion (1 minus the Shared Cost percent) of any covered services, but will not pay more than the new reduced daily/monthly benefit amount and the policyholder will be responsible for the remainder.

Shared Cost Percentages are calculated using seriatim, nationwide data for each benefit period, inflation type and issue age band combination. All Shared Cost percentages are determined to be actuarially equivalent to the requested rate increases by combination of 5-year issue age band, benefit period and inflation type. The Shared Cost option is not available to limited pay policies or policyholders who have elected two prior Shared Cost options.

- ***Voluntary Enhanced Paid-Up Policy Option***
  For those who choose to stop paying premiums, this option will be a paid-up policy with a policy limit equal to the lesser of the current policy limit and 150% of premiums paid less any benefits received.

The premium rate tables reflecting these options will be filed upon request following a full or substantial approval.

8. State Policyholder Counts & Average Annual Premium

The table below summarizes the number of policies inforce that could be affected by the rate increase in your state and their annualized premiums, as well as the average annual premium per policy before and after the requested increase.

Counts and premiums are based on policies inforce as of 12/31/2021. Premium-paying policies as well as policies on claim are included, since although the premium for policies on claim is currently waived, they could be subject to the rate increase upon recovery. Paid-up policies and policies which have exercised the nonforfeiture benefit option are excluded.

Form	Number of Policies	2021 Annualized Premium*	2021 Average Annual Premium Before the rate increase*	2021 Average Annual Premium After the rate increase
LTC-03 MD	2,454	8,419,613	3,430	6,195
BSC-03 MD	52	159,936	3,080	5,563

*Premiums reflect the rate increases approved in prior filing(s), including approvals where implementation is not yet complete

9. State and Nationwide Distribution of Business as of December 31, 2021

The state-specific and nationwide distribution of business for policyholders impacted by the rate increase is shown below by inflation type, benefit period, and issue age. The breakdown of business by Premium Payment Option is also included to show the number of policyholders no longer paying premiums due to nonforfeiture election or paid-up status.

Inflation Type

State	GPO	Simple	Compound	5%/3% Compound	Total
NW	17%	26%	49%	8%	100%
MD	10%	25%	65%	0%	100%
NW	16,281	25,454	47,531	7,737	97,003
MD	258	626	1,622	0	2,506

Benefit Period

State	1 yr	2 yr	3 yr	4 yr	5 yr	6 yr	10 yr	Lifetime	Total
NW	0%	8%	26%	25%	21%	9%	4%	7%	100%
MD	0%	9%	27%	27%	20%	9%	2%	5%	100%
NW	5	7,420	25,533	24,530	20,173	8,897	3,656	6,789	97,003
MD	0	238	687	689	503	218	51	120	2,506

Issue Age

State	< 40	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+	Total
NW	1%	2%	6%	15%	28%	28%	15%	4%	1%	0%	100%
MD	1%	2%	7%	17%	31%	25%	13%	4%	1%	0%	100%
NW	815	1,699	5,453	14,518	27,322	27,555	14,699	3,992	855	95	97,003
MD	15	44	173	427	775	634	319	98	19	2	2,506

Premium Payment Option

State	Lifetime Pay	On Claim	Limited Pay	NFO*	Limited Pay, Paid Up*	Survivorship Waiver of Premium*	Total
NW	91%	3%	0%	3%	4%	0%	100%
MD	91%	3%	1%	1%	4%	0%	100%
NW	94,061	2,656	286	2,604	3,699	364	103,670
MD	2,415	76	15	25	102	11	2,644

*Policies not included in distributions by count shown above as they are not impacted by the rate increase.

10. Benefit Description(s)

A brief policy description for each of the policy forms:

<u>LTC-03 MD</u>
Individually underwritten long-term care policies that provide comprehensive long-term care coverage for care received in a nursing home or assisted care living facility, home health care, hospice care, respite care, or attendance at an Adult Day Care Center providing Adult Day Care.

Provides reimbursement of covered long-term care expenses incurred after an elected elimination period is met, up to the maximum daily/monthly amount. The benefit eligibility is determined based on the insured's cognitive impairment or their requiring physical assistance to perform two out of six activities of daily living (ADLs) of bathing, dressing, eating, toileting, transferring and maintaining continence.

Premiums are waived after the insured has met the elimination period and is receiving benefits and will continue to be waived until the insured stops receiving such benefits.

<u>BSC-03 MD</u>
Individually underwritten long-term care policies that provide comprehensive long-term care coverage for care received in a nursing home or assisted care living facility, home health care, hospice care, respite care, or attendance at an Adult Day Care Center providing Adult Day Care.

Provides reimbursement of covered long-term care expenses incurred after an elected elimination period is met. For care received in a nursing home, benefits are paid up to 100% of the maximum daily/monthly amount. For care received in an assisted living facility, benefits are paid up to 80% of the maximum daily/monthly amount. For all other care, benefits are paid up to 50%, 80% or 100% of the maximum daily/monthly amount, as elected at issue. The benefit eligibility is determined based on the insured's cognitive impairment or their requiring physical assistance to perform two out of six activities of daily living (ADLs) of bathing, dressing, eating, toileting, transferring and maintaining continence.

Premiums are waived after the insured has met the elimination period and is receiving Nursing Home or Assisted Living Facility benefits and will continue to be waived until the insured stops receiving such benefits.

11. Renewability

All policy forms are guaranteed renewable.

12. Applicability

This filing is applicable to in force policies only, as these policy forms are no longer being sold in the market. The premium changes will apply to the base forms as well as all applicable riders.

13. Trend Assumptions

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

14. Marketing Method

This product was typically marketed through our traditional agency system and brokers involving a personal contact with each applicant.

15. Underwriting

These policy forms were underwritten using a medical and risk questionnaire. We also utilized Attending Physician Statement and personal interviews depending on the age of the applicant and medical conditions.

16. Premium Classes

The base policy premium rates vary by issue age, benefit period, inflation option, home health care maximum benefit percentage, and underwriting class, as in the initial rate filing.

All premium factors related to the insured elected benefit design options or any eligible discount remain unchanged from the initial rate filing.

17. Premium Modalization Rules

Frequency	Multiple of Annual Premium
Semiannual	.52
Quarterly	.27
Monthly	.09

18. Issue Age Range

The issue age range is 18-84 for all policy forms.

19. Area Factors

Area factors are not applicable to any of the policy forms or riders.

20. Reserves

Active Life Reserves have not been used in this rate increase demonstration. Minimum Statutory Claim reserves as of 12/31/2021 have been discounted to the date of incurral of each respective claim and included in the historical incurred claims. Incurred But Not Reported claim reserves as of 12/31/2021 have also been allocated to the calendar year of incurral and included in historic incurred claims.

21. Data Credibility

Regarding the credibility of data for younger blocks of business such as Custom Care II, the Company would like to draw attention to the American Academy of Actuaries Issue Brief "*Understanding Premium Rate Increases on Private LTCI Policyholders 060216.pdf*", which has been included with this filing. The brief provides guidance on determining the need for premium rate increases on pages 4 and 5. This guidance includes a discussion on determining assumptions used for projections, particularly in situations where experience credibility may be low. Because of the long duration nature of Long Term Care policies, claims are often not seen in early durations which leads to lower credibility in actual experience for younger groups of policies. In situations where this is the case, the Actuarial Standards of Practice require that industry data or company data for older, similar business be used to set assumptions. Specifically, the brief states the following:

> "Section 3.2.1 of Actuarial Standard of Practice No. 18, Long-Term Care Insurance, requires actuaries to use alternative data sources such as public data or experience from the insurance company's older, similar policy forms for identifying reasonable assumptions. Waiting until sthere is adequate claim information on each policy form could result in much larger, less affordable rate increases."

Since Custom Care II is a younger block of business, our proposed rate increases on this form are based on our experience from this form as well as similar forms where we have over 20 years of experience. Overall, our unfavorable morbidity experience is at later durations and older attained ages, where we have significant data on our older plans and less on younger ones. With our combined data we are able to make credible decisions regarding future assumptions, in accordance with ASOP 18. Focusing solely on past experience for this product discredits our future projections and prevents us from acting on this information in a timely manner. Delaying rate increases until we have amassed similar experience on this particular policy form would take a considerable amount of time and would result in much higher rate increases for our customers which would be more difficult to manage and would require larger reductions in benefits in order to mitigate them.

22. Ensuring No Cross-Subsidization Between States

We have ensured no state's rate increase approvals will subsidize other states' rate increases. Rate increases 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 approved rate increases from our nationwide premium data. We then re-introduce actual prior rate increases with the amount and timing based on your state's prior approvals (as detailed in the section entitled **History of Previous Rate Revisions**). The current proposed rate increases are then determined based on the amounts needed in order to achieve our target lifetime loss ratios certified to in our prior filing.

Although some states may have capped our previous inforce rate increase filings, in each case this was done with the understanding that the full amount of the proposed rate increases were justified and that John Hancock would be refiling for the remainder at a later date. In instances where the remainder remains unapproved, it has been included in the current filings.

23. Past Losses Testing

Preventing companies from recouping past losses was the subject of a discussion by the NAIC in late 2013. The accepted methodology which was incorporated into the 2014 Long Term Care Model Regulation defines past losses as actual past claims less expected past claims when determining loss ratio compliance. Expected past claims are defined as the following:

> "Expected claims shall be calculated based on the original filing assumptions assumed until new assumptions are filed as part of a rate increase. New assumptions shall be used for all periods beyond each requested effective date of a rate increase [regardless of whether or not the rate increase is approved]. Expected claims are calculated for each calendar year based on the in-force at the beginning of the calendar year. Expected claims shall include margins for moderately adverse experience; either

amounts included in the claims that were used to determine the lifetime loss ratio consistent with the original filing or as modified in any rate increase filing."

We apply this methodology in demonstrating that we are not recouping past losses.

The 'Adjusted Expected Incurred Claims' are initially calculated by applying the original pricing durational loss ratio to the actual earned premium in a given calendar year. Later, in years in which and after which we filed for inforce rate increases, expected incurred claims are based on the new assumptions that were filed.

The accumulated value of the Adjusted Expected Incurred Claims is compared to the accumulated value of Actual Incurred Claims. The lesser of the Adjusted Expected Incurred Claims or Actual Incurred Claims is used for past claims when ensuring that the resulting overall increase in rates satisfies the rate stability rule ensuring a loss ratio no less than 85% (or the original pricing loss ratio if greater) on the rate increase portion, while applying 58% (or the original pricing loss ratio if greater) on the original rate schedule. This is demonstrated at the bottom of **Exhibit 1**. The derivation of Adjusted Expected Incurred Claims and comparison to Actual Incurred Claims can be seen in **Addendum #2 – Demonstration of not Recouping Past Losses**.

24. 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 rendering this opinion and am familiar with the requirements for filing long-term care insurance premiums and filing for increases in long-term care insurance premiums. This memorandum has been prepared in conformity with all applicable Actuarial Standards of Practice, including ASOP No. 8.

The preceding Actuarial Memorandum contains:

a) the assumptions on which this certification is based;
b) the adjustments to prior assumptions with an explanation of the reasons previous assumptions were not realized;
c) a lifetime projection of the prior premium rate schedules and incurred claims plus future expected premiums and claims which demonstrates that the revised premium rate schedule meets the loss ratios standards and necessary details of this state; and
d) disclosure of the manner, if any, in which reserves have been recognized.

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

I have reviewed and taken into consideration the policy design and coverage provided, and our current underwriting and claims adjudication processes.

In forming my opinion, I have used actuarial assumptions and actuarial methods and such tests of the actuarial calculations as I considered necessary. Based on these assumptions or statutory requirements where necessary, the premium rate filing is in compliance with the loss ratio standards of this state.

The basis for contract reserves has been previously filed and there is no anticipation of any changes.

Katherine A Gillis

Katherine A Gillis, FSA, MAAA
Actuary, Long Term Care Inforce Management
John Hancock Life Insurance Company

Addendum #1 - Assumptions and Analysis Performed

As part of the inforce management of the business, the Company monitored the performance of the business by completing periodic analysis for morbidity, voluntary lapse rates, and mortality. The findings from these analyses were used in projecting the inforce business to determine the effect of experience on the projected lifetime loss ratio. The most current studies show unfavorable trends since the study that prompted our 2019 rate increase filings.

Relative to previous expectations, the new data demonstrates lower mortality for non-claimants, higher utilization of benefits, and lower than expected claim terminations, partly offset by lower claim incidence.

[REDACTED]

A. Current & Prior Assumptions

Morbidity

[REDACTED]

Incidence

[REDACTED]

After updating assumptions to reflect the generally favorable experience, the overall A/E ratio is 101%.

Incidence (Count)		
Duration	**A/E Before Assumption Update**	**A/E After Assumption Update**
10-11	93%	99%
12-14	95%	101%
15+	94%	102%
Total	**94%**	**101%**

Claim Terminations

[REDACTED]

After updating assumptions to reflect termination experience, the A/E is 99% for the first 5 months on claim and 97% overall.

Terminations (Count)						
	All Months		Months 1-5		Months 6+	
Benefit Period	A/E Before Assumption Update	A/E After Assumption Update	A/E Before Assumption Update	A/E After Assumption Update	A/E Before Assumption Update	A/E After Assumption Update
<10 years	97%	98%	95%	99%	98%	97%
10+ years	91%	96%	91%	102%	92%	93%
Total	**96%**	**97%**	**94%**	**99%**	**97%**	**96%**

Utilization

[REDACTED]

After updating our assumption based on experience, the total A/E is 102%.

Utilization (Amount)		
Inflation Type	**A/E Before Assumption Update**	**A/E After Assumption Update**
None/GPO	101%	101%
Simple	102%	101%
Compound	112%	104%
Total	**106%**	**102%**

Voluntary Lapses

[REDACTED]

Actual to Expected ratios by amount for this block (John Hancock individual business) summarized by inflation and duration groups before and after the assumption update are shown below.

Lapse (Amount)						
	No Inflation		With Inflation		Total	
Duration	A/E Before Assumption Update	A/E After Assumption Update	A/E Before Assumption Update	A/E After Assumption Update	A/E Before Assumption Update	A/E After Assumption Update
1-5	120%	72%	91%	100%	91%	99%
6-10	104%	87%	105%	107%	105%	104%
11-15	88%	95%	96%	100%	95%	99%
16-20	125%	93%	128%	103%	128%	101%
21-25	126%	119%	127%	123%	127%	121%
26+	109%	100%	88%	92%	104%	98%
Total	**107%**	**96%**	**105%**	**104%**	**105%**	**102%**

The changes to the expected lapse assumption improved the fit across cohorts and resulted in a total A/E of 102%.

Mortality

[REDACTED]

The below table shows the healthy life A/E ratios by amount before and after the assumption update for our Retail Individual business.

Mortality (Amount)		
Duration	A/E Before Assumption Update	A/E After Assumption Update
1-5	100%	105%
6-10	99%	99%
11-15	96%	99%
16-20	94%	102%
21-25	97%	101%
26+	76%	84%
Total	**95%**	**100%**

Expenses

[REDACTED]

B. Original Pricing Assumptions

[REDACTED]

Addendum #2 – Demonstration of not Recouping Past Losses
Custom Care II (LTC-03) and Essential Care II (BSC-03)

	Calendar Year	Original Incurred Loss Ratio	Historic Data Earned Premium	**Adjusted Expected Incurred Claims**		Historic Data Incurred Claims
Original Pricing	1988	0%	3,448	**-**		-
	1989	0%	3,448	**-**		-
	1990	0%	3,636	**-**		-
	1991	0%	5,212	**-**		-
	1992	0%	5,212	**-**		-
	1993	0%	9,142	**-**		-
	1994	0%	10,467	**-**		-
	1995	0%	12,687	**-**		-
	1996	0%	20,415	**-**		-
	1997	0%	20,415	**-**		-
	1998	0%	27,710	**-**		-
	1999	0%	40,511	**-**		-
	2000	0%	69,627	**-**		-
	2001	0%	110,863	**-**		-
	2002	0%	169,283	**-**		-
	2003	0%	426,987	**180**		-
	2004	1%	33,127,211	**274,057**		185,275
	2005	2%	87,163,823	**1,495,724**		1,876,273
	2006	3%	159,491,449	**4,337,977**		5,523,449
	2007	4%	243,391,754	**9,452,621**		8,596,124
	2008	6%	266,439,236	**16,664,982**		12,276,790
	2009	9%	266,766,265	**24,632,242**		18,895,606
2010 RI	2010			**25,433,851**		23,410,814
	2011			**31,786,583**		30,774,144
	2012			**39,708,706**		39,999,899
	2013			**48,771,450**		44,643,021
	2014			**58,438,753**		59,484,214
	2015			**68,862,111**		70,920,919
2016 RI	2016			**83,725,554**		85,039,546
	2017			**97,430,506**		104,114,792
	2018			**113,021,626**		115,511,297
2019 RI	2019			**153,319,398**		125,122,754
	2020			**174,626,959**		125,290,237
	2021			**199,737,341**		207,981,388
Values as of 12/31/2021 (discounted at maximum statutory valuation rates)						
Past :				**1,399,832,766**	>	1,317,084,416

Minimum (Accum Value of Past Incurred Claims,
Accum Value of Adjusted Expected Incurred Claims) = 1,317,084,416

The lesser of actual and expected past claims, $1,317,084,416, is used in demonstrating compliance with the minimum loss ratio in Exhibit 1

Addendum #3 - LTC Buy-Out Offer and Policy Termination Option Details

With this filing a separate disclosure endorsement has been submitted requesting your state to approve an additional rate increase alternative option for policyholders. This new option is an offer for John Hancock to buy-out an insured's policy by providing a one-time lump-sum payment in exchange for the immediate termination of the policy and any riders. Upon election of this option the insured's policy will be terminated and the insured will no longer be eligible for any long-term care benefits from John Hancock. The insured will have a 30-day period to change their mind, after which the policy will not be eligible for restoration.

Long Term Care insurance does not provide a cash surrender value and this offer should not be considered as one. It will be made on a one-time basis as part of the rate increase request documented in this actuarial memorandum. We do not anticipate making this LTC Buy-Out Offer and Policy Termination Option available again to these insureds should additional rate action be required at a later time. The intention with this offer is to provide a one-time alternative to insureds who no longer wish to retain their policy. We anticipate that policyholders who expect to use their benefits in the future will not accept this offer.

The LTC Buy-Out Offer Amount to be identified in the disclosure endorsement is scaled to our expectation of a policy's remaining risk and will be based on the best estimate value of the policy, determined by an actuarial calculation which takes into account several factors including morbidity, mortality, and interest rate assumptions. This offer will be available on policies issued prior to age 70, which are active, premium-paying policies with an approved rate increase.

The actuarial calculation that will determine the LTC Buy-Out Offer Amount for each insured will be a Buy-out Factor (60%) multiplied by the best estimate actuarial present value of expected future benefits payable under their policy. The actuarial present value of expected future benefits represents the value of the remaining risk in the policy from John Hancock's perspective. While the LTC Buy-Out Offer Amounts will be calculated on a policy-by-policy basis, both the Buy-out Factor and the methodology for calculating the expected future benefits will be consistent for all insureds issued in your state who receive a buy-out offer under the policy forms included in this actuarial memorandum. The expected benefits will be consistent with those used to calculate the Gross Premium Valuation (GPV) reserve, discounted at 5.75% annually. LTC Buy-Out Offer Amounts will be calculated as of September 30, 2022[1].

Since LTC Buy-Out Offer Amounts are based on expected future benefits, they will vary by both policy and policyholder attributes, including but not limited to: product features and riders, benefit amounts, inflation type, policy duration, age at policy issue, sex, and risk class. Depending on the risk characteristics of the policy, the resulting LTC Buy-Out Offer Amount may be higher or lower than the total premiums that the insured has paid into their policy. Below are two sample policies which demonstrate how the LTC Buy-Out Offer Amount is calculated from the components of the GPV reserve as well as how the value of it can vary from one insured to another. These are not actual policies but are provided for illustrative purposes only.

Sample Policy #	Cumulative Premium	GPV Reserve =	PV Future Benefits (PVFB)	+ PV Future Expenses	- PV Future Premiums		Buy-out Factor	LTC Buy-Out Offer Amount (Buy-out Factor x PVFB)
1	10,000	17,000	18,000	2,000	3,000		60%	10,800
2	10,000	11,000	12,000	2,000	3,000		60%	7,200

[1] For policyholders who are on claim as of or have claims paid after September 30, 2022 and later come off claim for long enough to receive the rate increase requested in this filing, they will receive a LTC Buy-Out Offer and Policy Termination Option at the time of their rate increase reflecting a valuation date after their return to active status.

Appendix A

Custom Care II (LTC-03) and Essential Care II (BSC-03)

Rate Increase Percentages

(applied across all elimination periods, and across all Assisted Living Facilities, Home and Community Care percentages)

Age	Base							Simple Inflation							Compound Inflation						
	Benefit Period							Benefit Period							Benefit Period						
	2 Years	3 Years	4 Years	5 Years	6 Years	10 Years	Life	2 Years	3 Years	4 Years	5 Years	6 Years	10 Years	Life	2 Years	3 Years	4 Years	5 Years	6 Years	10 Years	Life
18-29	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
30	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
31	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	72.2%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
32	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	71.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
33	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	62.7%	62.7%	62.7%	62.7%	72.2%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
34	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	62.7%	62.7%	62.7%	62.7%	74.0%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
35	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	62.7%	62.7%	62.7%	62.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
36	105.6%	105.6%	105.6%	101.3%	105.6%	105.6%	105.6%	62.7%	62.7%	62.7%	62.7%	62.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
37	105.6%	105.6%	105.6%	101.3%	105.6%	105.6%	105.6%	73.2%	62.7%	72.9%	62.7%	71.4%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
38	105.6%	105.6%	105.6%	101.3%	105.6%	105.6%	105.6%	73.2%	62.7%	75.7%	71.9%	74.0%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
39	105.6%	105.6%	105.6%	101.3%	105.6%	105.6%	105.6%	75.9%	62.7%	75.1%	74.0%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
40	105.6%	105.6%	105.6%	101.3%	105.6%	105.6%	105.6%	75.9%	73.4%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
41	105.6%	105.6%	105.6%	89.4%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
42	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	75.9%	75.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
43	105.6%	105.6%	100.6%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
44	105.6%	115.7%	100.6%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
45	105.6%	115.7%	89.4%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
46	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
47	105.6%	105.6%	105.6%	105.6%	105.6%	118.0%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
48	105.6%	105.6%	105.6%	105.6%	105.6%	117.4%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
49	116.8%	105.6%	105.6%	105.6%	105.6%	121.7%	119.4%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
50	116.8%	119.4%	116.8%	105.6%	105.6%	121.7%	118.8%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
51	119.2%	107.9%	115.0%	105.6%	105.6%	121.7%	121.1%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
52	115.7%	107.9%	115.0%	105.6%	105.6%	121.7%	120.0%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
53	105.7%	105.6%	105.6%	105.6%	105.6%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
54	105.6%	105.6%	105.6%	118.0%	117.4%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
55	120.5%	105.6%	105.6%	117.4%	116.8%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
56	119.4%	105.6%	113.5%	120.1%	115.7%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
57	118.5%	105.6%	105.6%	118.8%	105.6%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
58	117.6%	105.6%	116.2%	117.7%	116.8%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
59	115.0%	117.4%	118.8%	120.0%	115.9%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
60	105.6%	120.1%	117.7%	118.9%	117.6%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
61	105.6%	118.8%	119.4%	117.6%	116.4%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
62	117.4%	120.5%	118.5%	119.0%	117.8%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
63	119.4%	116.3%	117.2%	117.8%	116.8%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
64	118.3%	118.0%	120.7%	105.6%	105.6%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
65	120.0%	116.8%	119.4%	115.6%	105.6%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
66	118.5%	105.6%	119.8%	105.6%	105.6%	121.7%	121.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
67	119.4%	116.2%	118.2%	105.6%	105.6%	121.7%	121.5%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
68	117.8%	118.5%	118.3%	105.6%	105.6%	121.7%	120.8%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
69	116.5%	117.0%	116.8%	105.6%	105.6%	121.7%	120.2%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
70	117.1%	118.6%	116.8%	105.6%	105.6%	121.7%	118.7%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
71	115.5%	118.2%	116.4%	105.6%	115.7%	120.7%	117.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
72	115.6%	116.4%	117.1%	105.6%	116.1%	119.2%	117.2%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
73	115.5%	116.0%	116.5%	105.6%	115.4%	117.7%	116.5%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
74	115.5%	115.4%	116.6%	105.6%	116.2%	116.4%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
75	105.6%	105.6%	114.1%	105.6%	116.1%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
76	115.7%	105.6%	116.6%	105.6%	115.8%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
77	105.6%	105.6%	116.3%	105.6%	115.4%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
78	105.6%	105.6%	116.5%	105.6%	115.5%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
79	105.6%	105.6%	116.6%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
80	105.6%	105.6%	115.9%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
81	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
82	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
83	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
84	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
85	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	75.9%	0.0%	75.9%	75.9%	75.9%	75.9%	0.0%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%
86	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	0.0%	62.7%	62.7%	62.7%	62.7%	0.0%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%
87	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	0.0%	62.7%	62.7%	62.7%	62.7%	0.0%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%
88	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	0.0%	62.7%	62.7%	62.7%	62.7%	0.0%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%
89	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	0.0%	62.7%	62.7%	62.7%	62.7%	0.0%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%
90	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	62.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%	62.7%
91	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	105.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%