

John Hancock Life Insurance Company (U.S.A.)
Actuarial Memorandum for Inforce Rate Increase – Gold Policy Series
January 14, 2025

<u>Product Name</u>	<u>Form Number</u>	<u>Issue Date Range</u>
Advantage Gold Select	LTC-96 MD 9/96	Jan 1997 - Feb 2003
Advantage Gold Select	LTC-96 MD 3/97	Jan 1997 - Feb 2003
Advantage Classic	LTC-96CL MD 9/96	Feb 1997 - Mar 1998
Advantage Classic	LTC-96CL MD 3/97	Feb 1997 - Mar 1998
Advantage Classic	NH-99 MD 4/99	Nov 1999 - Dec 2001
Fidelity Advantage Gold Select	LTC2000 MD 4/00	Sep 2001 - Apr 2003

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. Requested Rate Increase

The Company is requesting a flat rate increase of 108.1%.

These rate increases were determined as the amounts needed to meet the target loss ratio (restated for removal of waived premiums) from our prior filing, based on nationwide experience through yearend 2021, and then projected future experience.

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%.

The rate stability rule is demonstrated at the bottom of **Exhibit 1**.

In the rate schedules by policy form, **Appendix B1** contains the new proposed rate tables for all policy forms included with this filing for those policyholders that *never* elected an inflation reduction or shared cost option as part of the 2013 or 2016 rate increase filings.

In the rate schedules by policy form, **Appendices B2 forward** contain the new proposed rate tables for all policy forms included with this filing for those policyholders that *did* elect an inflation reduction or shared cost option as part of the 2013 and/or 2016 rate increase filings.

Please note that the actual rates implemented may vary slightly from those in Appendices B1 forward 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 95.2%, well in excess of the minimum loss ratio of 60% as well as greater than the original pricing loss ratio of 69.4%. Please note that the original pricing loss ratio was not restated for the removal of waived premiums due to immateriality. 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

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future earned premium where accumulation and discounting occur at the maximum statutory valuation discount rate. The maximum statutory valuation discount rate is 4.5%.

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:

Post-stability form requirements:

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%.

Pre-stability form requirements:

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%.

Detail on assumptions and recent analysis is provided in **Addendum #1 - Assumptions and Analysis Performed**.

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3. Nationwide Loss Ratio Exhibit (Exhibit 1)

Gold (LTC-96, LTC-96CL, NH-99, A-3541, A-3542, LTC2000)

Calendar Year	Original Assumptions			Historical & Projected Experience			With Proposed Rate Increase		
	Incurred Claims	Earned Premium	Incurred Loss Ratio	Incurred Claims	Earned Premium	Incurred Loss Ratio	Incurred Claims	Earned Premium	Incurred Loss Ratio
1988	-	-	0%	-	43,668	0%	-	43,668	0%
1989	-	-	0%	-	106,191	0%	-	106,191	0%
1990	-	-	0%	-	167,104	0%	-	167,104	0%
1991	-	-	0%	-	336,359	0%	-	336,359	0%
1992	-	-	0%	-	2,211,732	0%	-	2,211,732	0%
1993	-	-	0%	-	3,785,171	0%	-	3,785,171	0%
1994	-	-	0%	6,681	5,630,242	0%	6,681	5,630,242	0%
1995	-	-	0%	-	8,694,017	0%	-	8,694,017	0%
1996	46,523	507,740	9%	-	16,349,303	0%	-	16,349,303	0%
1997	1,883,605	20,957,444	9%	66,073	50,007,581	0%	66,073	50,007,581	0%
1998	6,842,508	65,556,158	10%	6,890,701	99,104,320	7%	6,890,701	99,104,320	7%
1999	14,704,667	114,182,665	13%	18,146,750	158,682,308	11%	18,146,750	158,682,308	11%
2000	25,918,419	171,360,073	15%	28,145,692	225,380,179	12%	28,145,692	225,380,179	12%
2001	37,631,987	219,645,420	17%	50,285,730	284,789,735	18%	50,285,730	284,789,735	18%
2002	49,898,653	259,751,045	19%	73,629,788	326,979,309	23%	73,629,788	326,979,309	23%
2003	59,562,641	253,233,083	24%	87,755,646	322,678,195	27%	87,755,646	322,678,195	27%
2004	67,298,459	229,753,188	29%	102,846,295	312,153,578	33%	102,846,295	312,153,578	33%
2005	72,669,704	209,369,594	35%	128,040,713	301,812,735	42%	128,040,713	301,812,735	42%
2006	77,353,484	191,816,110	40%	166,616,627	291,565,220	57%	166,616,627	291,565,220	57%
2007	82,554,406	176,590,927	47%	208,802,025	281,253,737	74%	208,802,025	281,253,737	74%
2008	87,826,370	163,256,059	54%	219,057,577	268,464,758	81%	219,057,577	268,464,758	81%
2009	92,407,052	151,400,475	61%	247,188,479	280,884,555	88%	247,188,479	280,884,555	88%
2010	97,026,650	140,646,773	69%	254,364,959	273,789,831	93%	254,364,959	273,789,831	93%
2011	101,964,803	130,677,044	78%	278,583,092	258,680,406	108%	278,583,092	258,680,406	108%
2012	107,106,387	121,236,700	88%	305,341,335	227,791,756	134%	305,341,335	227,791,756	134%
2013	112,188,316	112,151,971	100%	314,613,935	225,671,762	139%	314,613,935	225,671,762	139%
2014	117,118,930	103,386,735	113%	351,774,792	232,484,870	151%	351,774,792	232,484,870	151%
2015	121,754,306	94,957,671	128%	374,973,919	231,641,365	162%	374,973,919	231,641,365	162%
2016	125,970,599	86,883,188	145%	403,762,143	237,213,646	170%	403,762,143	237,213,646	170%
2017	129,700,208	79,180,098	164%	388,786,917	227,222,766	171%	388,786,917	227,222,766	171%
2018	132,793,992	71,864,025	185%	410,919,448	224,897,483	183%	410,919,448	224,897,483	183%
2019	135,179,074	64,948,256	208%	399,842,540	226,856,121	176%	399,842,540	226,856,121	176%
2020	136,799,154	58,442,882	234%	387,520,595	225,857,828	172%	387,520,595	225,857,828	172%
2021	137,634,476	52,355,371	263%	490,428,360	208,882,532	235%	490,428,360	208,882,532	235%
2022	137,663,110	46,689,178	295%	449,614,114	214,381,011	210%	449,614,114	214,381,011	210%
2023	136,741,174	41,443,414	330%	446,372,214	215,917,209	207%	446,372,214	215,917,209	207%
2024	134,827,001	36,816,717	368%	436,961,659	210,371,713	205%	436,961,659	210,371,713	205%
2025	131,952,950	32,190,767	410%	426,589,228	192,750,929	221%	426,589,228	192,750,929	221%
2026	128,201,061	28,167,347	455%	408,507,853	171,134,892	239%	401,273,860	287,812,409	139%
2027	123,640,882	24,530,268	504%	388,840,161	151,121,990	257%	369,284,741	297,806,526	124%
2028	118,227,080	21,262,729	556%	372,351,551	132,702,797	281%	353,361,622	262,017,458	135%
2029	112,127,070	18,345,977	611%	353,429,069	115,828,339	305%	335,404,186	228,699,375	147%
2030	105,484,771	15,759,958	669%	332,546,235	100,504,629	331%	315,586,377	198,443,198	159%
2031	98,452,945	13,483,372	730%	310,214,085	86,716,607	358%	294,393,166	171,219,185	172%
2032	91,129,362	11,493,607	793%	286,958,210	74,424,944	386%	272,323,342	146,949,688	185%
2033	83,006,979	9,765,314	856%	263,268,943	63,561,630	414%	249,870,697	125,500,420	199%
2034	76,251,757	8,273,656	922%	239,620,219	54,018,638	444%	227,399,588	106,858,084	213%
2035	69,286,921	6,994,979	991%	216,305,109	45,672,301	474%	205,273,548	90,178,508	228%
2036	62,786,582	5,906,275	1063%	193,601,927	38,408,987	504%	183,728,229	75,837,325	242%
2037	56,755,532	4,985,188	1138%	171,758,053	32,124,533	535%	162,998,392	63,428,870	257%
2038	51,265,630	4,209,003	1218%	151,007,467	26,719,206	565%	143,306,086	52,756,224	272%
2039	46,532,613	3,557,502	1308%	131,599,837	22,099,774	595%	124,888,245	43,635,302	286%
2040	42,677,865	3,012,653	1417%	113,655,694	18,178,915	625%	107,859,253	35,993,690	300%
2041	39,711,627	2,557,908	1553%	97,364,327	14,873,730	655%	92,368,746	29,367,707	315%
2042	37,512,219	2,178,094	1722%	82,758,211	12,105,348	684%	78,537,542	23,901,625	329%
2043	35,917,156	1,859,054	1932%	69,854,211	9,800,724	713%	66,291,646	19,351,217	343%
2044	34,689,362	1,589,641	2182%	58,520,502	7,893,289	741%	55,535,956	15,585,048	356%
2045	33,617,863	1,360,808	2470%	48,640,289	6,324,269	769%	46,159,634	12,487,069	370%
2046	32,569,108	1,164,837	2796%	40,167,039	5,042,233	797%	38,118,520	9,955,728	383%
2047	31,414,634	995,163	3157%	32,971,422	4,001,014	824%	31,289,880	7,899,876	396%
2048	30,088,815	846,320	3555%	26,927,649	3,159,474	852%	25,554,339	6,238,280	410%
2049	28,478,973	714,779	3984%	21,842,111	2,462,243	880%	20,728,164	4,901,110	423%
2050	26,504,643	598,369	4429%	17,608,903	1,940,289	908%	16,710,849	3,831,038	436%
2051	24,134,078	495,634	4869%	14,096,514	1,509,221	934%	13,377,592	2,979,909	449%
2052	21,428,812	405,551	5284%	11,220,240	1,168,457	960%	10,648,008	2,307,082	462%
2053	18,453,482	327,316	5638%	8,884,706	900,546	987%	8,431,586	1,778,099	474%
2054	15,495,366	260,178	5956%	6,978,049	691,031	1010%	6,622,168	1,364,419	485%
2055	12,741,668	203,368	6265%	5,441,205	528,193	1030%	5,163,703	1,042,900	495%
2056	10,288,914	156,112	6591%	4,225,621	402,358	1050%	4,010,114	794,444	505%
2057	8,148,039	114,779	6929%	3,274,822	305,232	1072%	3,107,806	603,181	515%
2058	6,333,994	86,891	7290%	2,536,066	231,042	1096%	2,406,726	456,186	528%
2059	4,805,140	62,955	7633%	1,950,287	173,898	1122%	1,850,822	343,356	539%
2060	3,544,362	44,737	7923%	1,482,438	130,172	1139%	1,406,834	257,021	547%
2061	2,538,940	31,221	8132%	1,122,112	96,883	1158%	1,064,884	191,293	557%
2062	1,768,226	21,398	8264%	843,151	71,658	1177%	800,151	141,486	566%
2063	1,202,060	14,301	8405%	630,062	52,645	1197%	597,929	103,945	575%
2064	801,372	9,273	8642%	473,624	38,430	1232%	449,469	75,879	592%
2065	520,951	6,322	8949%	348,955	27,938	1254%	331,157	54,962	603%
2066	328,310	3,533	9293%	257,872	19,996	1290%	244,721	39,482	620%
2067	199,369	2,068	9642%	186,151	14,248	1307%	176,657	28,131	628%
2068	115,643	1,161	9960%	132,466	10,095	1312%	125,711	19,932	631%
2069	62,821	621	10111%	93,384	7,125	1311%	88,621	14,068	630%
2070	30,572	308	9920%	65,173	5,011	1301%	61,850	9,894	625%
2071	11,786	133	8894%	48,316	3,505	1378%	45,852	6,921	662%
2072	3,273	39	8306%	35,548	2,412	1474%	33,735	4,762	708%
2073	495	4	11530%	25,463	1,618	1573%	24,165	3,195	759%
2074	-	-	0%	16,693	1,052	1587%	15,842	2,077	763%
2075	-	-	0%	10,552	660	1598%	10,014	1,304	768%
2076	-	-	0%	6,393	399	1603%	6,067	787	771%
2077	-	-	0%	3,692	230	1604%	3,504	454	771%
2078	-	-	0%	2,023	125	1613%	1,920	248	775%
2079	-	-	0%	1,038	62	1673%	985	122	804%
2080	-	-	0%	502	28	1783%	476	56	857%
2081	-	-	0%	198	10	1978%	188	20	951%
2082	-	-	0%	82	1	8841%	58	1	4730%

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)

	Past :	Future :	LifeTime :	Past :	Future :	LifeTime :	Past :	Future :	LifeTime :
	3,213,892,852	6,433,359,102	50.0%	8,277,295,394	10,859,792,033	76.2%	8,277,295,394	10,859,792,033	76.2%
	1,439,656,551	272,995,682	527.4%	4,302,691,661	1,572,707,935	279.3%	4,262,377,389	2,315,129,545	184.1%
	4,653,549,403	6,706,354,784	69.4%	12,669,987,045	12,432,499,967	101.9%	12,539,672,774	13,174,921,577	95.2%

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

Minimum (Accum Value of Past Incurred Claims,		Accum Value of Past Initial Prm x 69.4
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4. 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 03/01/2026.

5. History of Previous Rate Revisions

An average rate increase of 13.0% on these policy forms was accepted by your state on September 10, 2008.

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

An average rate increase of 13.9% on these policy forms was accepted by your state on September 11, 2013.

An average rate increase of 15.0% on these policy forms was accepted by your state on September 29, 2014.

An average rate increase of 14.9% on these policy forms was accepted by your state on October 23, 2015.

An average rate increase of 40.5% on these policy forms was accepted by your state on August 01, 2017 which was phased-in over 3 years with a 12% annual maximum.

An average rate increase of 39.7% on these policy forms was accepted by your state on April 01, 2020 which was phased-in over 3 years with a 15% annual maximum for inflation policies and 2 years with a 7.5% annual maximum for non-inflation policies.

6. Reduced Benefit Options (RBOs)

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,

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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. This option is also not available to Advantage Classic policyholders because that plan already has a coinsurance provision for care received in a community setting or in an assisted living facility.

- ***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.

7. 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-96 MD 9/96	3,653	17,272,253	4,728	9,837
LTC-96 MD 3/97	(incl. above)	(incl. above)	(incl. above)	(incl. above)
LTC-96CL MD 9/96	2	9,140	4,570	9,508
LTC-96CL MD 3/97	(incl. above)	(incl. above)	(incl. above)	(incl. above)
NH-99 MD 4/99	(incl. above)	(incl. above)	(incl. above)	(incl. above)
LTC2000 MD 4/00	19	110,583	5,820	12,109

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

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8. 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	Total
NW	26%	30%	44%	100%
MD	12%	34%	54%	100%
NW	18,205	21,139	31,062	70,406
MD	449	1,232	1,993	3,674

Benefit Period

State	1 yr	2 yr	3 yr	4 yr	5 yr	6 yr	10 yr	Lifetime	Total
NW	0%	7%	17%	27%	0%	27%	4%	19%	100%
MD	0%	11%	19%	30%	0%	25%	3%	12%	100%
NW	12	4,759	11,783	18,707	244	18,995	2,519	13,387	70,406
MD	0	419	706	1,093	0	920	100	436	3,674

Issue Age

State	< 40	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+	Total
NW	0%	1%	4%	12%	25%	32%	19%	6%	1%	0%	100%
MD	0%	1%	3%	13%	26%	32%	18%	6%	1%	0%	100%
NW	160	838	2,561	8,621	17,771	22,429	13,604	3,918	486	18	70,406
MD	6	33	123	465	950	1,193	657	220	26	1	3,674

Premium Payment Option

State	Lifetime Pay	On Claim	Limited Pay	NFO*	Limited Pay, Paid Up*	Survivorship Waiver of Premium*	Total
NW	75%	10%	0%	14%	1%	0%	100%
MD	83%	10%	0%	7%	0%	0%	100%
NW	61,754	8,645	7	11,140	563	295	82,404
MD	3,261	413	0	270	0	5	3,949

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

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9. Benefit Description(s)

A brief policy description for each of the policy forms:

LTC-96 MD 9/96, LTC-96 MD 3/97

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 or covered services received in a community setting.

Provides reimbursement of 100% of covered long-term care expenses incurred after an elected elimination period is met, up to the maximum daily amount. For care received in a community setting or in an assisted living facility, the maximum daily amount could be 50%, 80%, or 100% of the nursing home maximum daily 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 benefits and will continue to be waived until the insured stops receiving such benefits.

LTC-96CL MD 9/96, LTC-96CL MD 3/97

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 or covered services received in a community setting.

For care received in a nursing home, provides reimbursement of 100% of covered long-term care expenses incurred after an elected elimination period is met, up to the maximum daily amount. For care received in a community setting or in an assisted living facility, provides reimbursement of 80% of covered long-term care expenses incurred after an elected elimination period is met, up to the maximum daily amount; this maximum daily amount could be 50%, 80%, or 100% of the nursing home maximum daily amount, and is 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 benefits and will continue to be waived until the insured stops receiving such benefits.

LTC2000 MD 4/00

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 or covered services received in a community setting.

Provides reimbursement of 100% of covered long-term care expenses incurred after an elected elimination period is met, up to the maximum daily amount. For care received in a community setting or in an assisted living facility, the maximum daily amount is 150% of the nursing home maximum daily 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.

NH-99 MD 4/99

Individually underwritten long-term care policies that provide comprehensive long-term care coverage for care

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received in a nursing home or assisted care living facility.

Provides reimbursement of 100% of covered long-term care expenses incurred after an elected elimination period is met, up to the maximum daily 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.

10. Renewability

All policy forms are guaranteed renewable.

11. 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.

12. Trend Assumptions

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

13. Marketing Method

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

14. 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.

15. 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.

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16. Premium Modalization Rules

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

17. Issue Age Range

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

18. Area Factors

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

19. 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.

20. 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 re-filing for the remainder at a later date. In instances where the remainder remains unapproved, it has been included in the current filings.

21. 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

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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**.

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22. 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 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

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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 favorable trends overall for the Pre-Custom Care block of business since the study that prompted our 2019 rate increase filings.

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

[REDACTED]

A. Current & Prior Assumptions

Morbidity

[REDACTED]

Incidence

[REDACTED]

After updating assumptions to reflect the favorable experience, the overall A/E ratio is 93%.

Incidence (Count)		
Duration	A/E Before Assumption Update	A/E After Assumption Update
10-17	92%	93%
18-20	92%	94%
21+	89%	93%
Total	91%	93%

Claim Terminations

[REDACTED]

After the assumption update, the A/E is 102% for the first 5 months on claim and 103% overall.

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Terminations (Count)						
Benefit Period	All Months		Months 1-5		Months 6+	
	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	105%	103%	96%	101%	108%	103%
10+ years	102%	104%	93%	106%	105%	103%
Total	104%	103%	95%	102%	107%	103%

Utilization

[REDACTED]

After updating our assumption based on experience, the total A/E is 100%.

Utilization (Amount)		
Inflation Type	A/E Before Assumption Update	A/E After Assumption Update
None/GPO	100%	101%
Simple	102%	100%
Compound	104%	100%
Total	102%	100%

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)						
Duration	No Inflation		With Inflation		Total	
	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%.

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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]

Original Pricing Assumptions

[REDACTED]

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Addendum #2 – Demonstration of not Recouping Past Losses
Gold (LTC-96, LTC-96CL, NH-99, A-3541, A-3542, LTC2000)

	Calendar Year	Original Incurred Loss Ratio	Historic Data Earned Premium	Adjusted Expected Incurred Claims		Historic Data Incurred Claims
Original Pricing	1988	0%	42,883	-		-
	1989	0%	104,264	-		-
	1990	0%	163,081	-		-
	1991	0%	319,836	-		-
	1992	0%	2,109,048	-		-
	1993	0%	3,716,742	-		-
	1994	0%	5,539,733	-		6,681
	1995	0%	8,530,610	-		-
	1996	9%	15,887,181	1,452,984		-
	1997	9%	48,284,790	4,336,972		66,073
	1998	10%	97,185,310	10,061,669		6,890,701
	1999	13%	156,373,618	19,648,013		18,146,750
	2000	15%	223,046,962	32,625,405		28,145,692
	2001	16%	282,688,484	46,448,908		50,265,730
	2002	18%	326,084,894	59,666,793		73,629,788
	2003	22%	323,458,687	72,114,588		87,755,646
	2004	28%	313,032,848	86,843,075		102,846,295
2005	33%	302,644,424	99,412,490		128,040,713	
2006	38%	292,544,516	111,524,544		166,616,627	
2007	44%	282,399,889	125,015,853		208,802,025	
2008 Assumptions	2008			138,746,213		219,057,577
	2009			147,884,642		247,180,479
2010 Assumptions	2010			225,477,020		254,364,959
	2011			237,762,938		278,583,092
	2012			248,378,870		305,341,335
2013 Assumptions	2013			289,880,225		314,613,935
	2014			310,010,100		351,774,792
	2015			319,127,959		374,973,919
2016 Assumptions	2016			380,143,190		403,782,143
	2017			394,614,175		388,786,817
	2018			409,643,721		410,919,448
2019 Assumptions	2019			438,901,427		399,842,540
	2020			445,402,184		387,520,595
	2021			450,123,076		490,428,360
Values as of 12/31/2021 (discounted at maximum statutory valuation rates)						
	Past :			7,234,198,667	<	8,277,295,384

Minimum (Accum Value of Past Incurred Claims,

Accum Value of Adjusted Expected Incurred Claims) = 7,234,198,667

The lesser of actual and expected past claims, \$7,234,198,667, is used in demonstrating compliance with the minimum loss ratio in Exhibit 1