Client Report

Premium Estimates for Limited Long-Term Services and Supports (LTSS) Benefit Within Medigap and Medicare Advantage Plans

Prepared for:
Bipartisan Policy Center (BPC)

Prepared by:

Christopher Giese, FSA, MAAA
Principal and Consulting Actuary, Milliman

Allen Schmitz, FSA, MAAA
Principal and Consulting Actuary, Milliman

Sarah Wunder, ASA, MAAA
Associate Actuary, Milliman

Annie Gunnlaugsson, ASA, MAAA
Associate Actuary, Milliman

15800 Bluemound Road
Suite 100
Brookfield, WI 53005
USA
Tel +1 262 784 2250
Fax +1 262 923 3680

milliman.com

April 26, 2017

TABLE OF CONTENTS

I. OVERVIEW 1
II. BASE PLAN PREMIUM RESULTS 2
III. PROGRAM STRUCTURE CONSIDERATIONS 6
IV. ALTERNATIVES AND SENSITIVITIES 9
V. METHODOLOGY AND ASSUMPTIONS 13
VI. CAVEATS AND LIMITATIONS 15

I. OVERVIEW

The Bipartisan Policy Center (BPC) engaged Milliman to model estimated premiums for providing limited long-term services and supports (LTSS) insurance coverage to individuals at issue age 65. We understand BPC plans to use the illustrative premiums shown in this report to support financing recommendations being considered by the BPC to add an LTSS benefit to Medicare Supplement (also referred to as Medigap) and to Medicare Advantage (MA) plans.

SCOPE OF ENGAGEMENT

The scope of our engagement included the following two components:

1. Estimate illustrative, market-wide premiums reflecting the average nationwide cost for beneficiaries assumed to enroll in the new LTSS coverage. Our work excluded evaluating pricing on a carrier-specific or regional basis.

2. Provide high-level considerations with respect to BPC's proposed program structure of embedding a LTSS benefit within Medigap and Medicare Advantage plans.

For the purpose of this report, we use the terms LTSS and long-term care (LTC) interchangeably. The limited LTSS benefit modeled per BPC's request provides reimbursement for home-based services only, similar to the level of home health coverage offered in the current private LTC insurance market. This includes services provided in the home by a licensed medical practitioner or home health aide and other services to help maintain living at home.

Our pricing approach utilized a combination of internal Milliman models and research, along with industry data. The estimated premium levels are summarized in this report under different parameters, including sensitivity testing of alternative program features and pricing assumptions. We provide details on the underlying pricing assumptions and key modeling considerations in the Methodology and Assumptions section of this report.

COMMENTS ON VOLUNTARY PROGRAMS AND LONG-TERM ACTUARIAL PROJECTIONS

The LTSS benefit contemplated by BPC allows Medicare-eligible beneficiaries at age 65 the opportunity to voluntarily elect or decline coverage. Participation mix is a critical assumption for pricing a voluntary LTSS benefit, which is due to the circular dependency of participation, morbidity, and premium, along with other influences such as benefit design, perceived value of insurance protection, eligibility for the program and benefits, the marketing and education for the program, and availability of other coverage. The framework used in this report does not attempt to quantify the level of participation, because there is no direct data to inform exactly how beneficiaries might react and choose to participate under this new program offering. We instead evaluated estimated premiums under hypothetical participation levels to illustrate the potential impact of adverse selection. We believe this approach allows for the most transparent and informative way for readers of this report to critically consider whether the assumed participation rates and resulting premiums are reasonable.

This report relies on estimates projected many years into the future. Actual expenses and related required revenue will inevitably vary from the estimates shown throughout the report. Any reader of this report should possess a certain level of expertise and background in actuarial projections related to financing LTSS / LTC benefits to assist in understanding the significance of the assumptions used and the impact of these assumptions on the illustrated results. The reader should be advised by, among other experts, actuaries or other professionals competent in the area of actuarial projections of the type in this report, so as to properly interpret the estimates. The information included in this report should only be considered in its entirety. Please see Section VI for additional caveats and limitations regarding this report.

II. BASE PLAN PREMIUM RESULTS

We estimate starting monthly premiums at age 65 for the base plan to vary from roughly $40 to $200, depending on assumed variations in starting participation level, discount rate, and provisions for expenses and profit. The premiums have a wide range, which is due to the significant influence these parameters have on needed premium rates. The premiums are particularly sensitive to the participation level.

We provide estimated premiums in this section under the following parameter variations:

- Hypothetical starting participation levels of 5%, 10%, 20%, 40%, 60%, and 100%

  We show premiums under various starting participation levels to illustrate the large, potential impact of adverse selection. We assumed individuals remain in the plan for the individual's entire life. The 100% participation level is used for evaluating the impact of alternative program features and select pricing assumptions in the Alternatives and Sensitivities section of this report.

- Discount rates of 3%, 4%, and 5%

  The discount rates are used to develop the present value of expected claims and premium revenue at issue age 65. We implicitly assume any excess of premiums over claims and expenses in a given year will be set aside as a reserve. The reserve would earn interest consistent with the discount rate and would be drawn down when claims and expenses exceed premiums in a given year.

- Loss ratios of 85% and 90%

  The loss ratios make provisions for covering expected expenses and margin / profit for the entity offering insurance coverage. For example, a loss ratio of 90% means that a load of 11% (= 1 / 90% - 1) is applied to the present value of expected claims to cover expenses and margin profit.

KEY PLAN FEATURES

The base LTSS plan coverage that we were requested to model included a benefit package with the following features:

- Individuals issued coverage at age 65 (we refer to as "issue age 65").
- Unisex-rated.
- $100 daily benefit at policy issue.
- Benefits are paid based on actual service costs incurred up to the daily limit.
- Coverage for home-based services only, similar to the level of home health coverage offered in private LTC insurance plans today. Costs for providing care are based on nationwide averages observed in the Milliman *Long-Term Care Guidelines*.
- 90-day elimination period, where days are counted only when services are provided.
- One-year benefit period with a pool-of-money design.
- Automatic annual compound benefit increases indexed to a consumer price index (CPI). For this report, we assumed the CPI was equal to a fixed average annual amount of 2.25%.

- Automatic annual compound premium increases indexed to CPI. We assumed a fixed average annual amount of 2.25%.
- Tax-qualified with Health Insurance Portability and Accountability Act (HIPAA) trigger for benefit eligibility—substantial assistance with two of six activities of daily living (ADLs) or severe cognitive impairment, where the individual is expected to meet the definition for at least 90 days.
- Individuals remain in the program and still continue to pay premium, even if they are currently receiving benefits or have exhausted their LTSS benefits.

PREMIUM RESULTS: 100% PARTICIPATION

Figure 1 summarizes the starting premiums at issue age 65 on a per member per month (PMPM) basis needed to cover expected claim payments, expenses, and margin / profit. Premiums are shown under two different loss ratio scenarios (85% and 90%) and three different discount rate scenarios (3%, 4%, and 5%).

Figure 1:
Limited LTSS Insurance Benefit
Issue Age 65 Starting Premium PMPMs
Base Plan, 100% Participation

	Loss Ratio	
Discount Rate	**85%**	**90%**
3%	$55	$52
4%	$51	$48
5%	$47	$45

The premiums in Figure 1 will increase by 2.25% each year. For example, for an individual who starts the program at age 65 with a monthly premium of $45, the monthly premium the following year at age 66 will be $46 (= $45 x 1.0225).

The premiums under a 100% participation level assume that all individuals will be enrolled in a plan with the LTSS benefit when they turn age 65. This represents a scenario under which it would be mandatory that everyone starting at age 65 enrolls and remains in the plan for the individual's entire life. We understand BPC will consider a structure where individuals will have a choice to enroll (e.g., among Medigap or MA plans with and without the LTSS benefit, or between traditional Medicare and Medigap / MA plans with the LTSS benefit). The following section discusses how premiums might need to change if participation is less than 100%.

PREMIUM RESULTS: PARTICIPATION LESS THAN 100%

It is important to consider the assumed mix of individuals with both lower and higher levels of anticipated LTSS needs when participation is less than 100%. The mix assumption is critically important, particularly for structures where no underwriting is used, given the intertwined nature of premium levels, the participation mix of individuals with lower or higher LTSS needs, morbidity levels, and other influences (such as coverage available through other programs). It is possible under a voluntary structure with no underwriting that a plan could reach a "tipping" point where it is unsustainable, as lower-risk individuals choose not to purchase coverage, leaving only higher-risk individuals.

We summarize in the following sections the sensitivity of premiums under various hypothetical starting participation levels. Please note, we assume that once an individual starts in the plan at age 65, that person remains in the program for life. The Methodology and Assumptions section and Exhibit 1 provide additional details behind the participation mix assumed for each test.

5% Participation

Figure 2 summarizes the issue age 65 starting premiums with 5% participation instead of 100% participation, mandatory enrollment. We assumed the participants at this level would consist of those with the highest LTSS needs in the near term (i.e., individuals already on claim or nearly on claim), as shown in Exhibit 1. All other assumptions from the 100% participation scenario remain unchanged.

Figure 2:
Issue Age 65 Starting Premium PMPMs
85% Loss Ratio
5% Participation

Discount Rate	5% Participation Scenario	100% Participation Scenario	Difference (%)
3%	$197	$55	258%
4%	$190	$51	273%
5%	$183	$47	289%

Figure 2 shows that premiums under the 5% participation scenario are roughly three to four times the premiums estimated with 100% participation. This test helps highlight the higher costs related to providing coverage for only those very likely to need LTSS services. As noted above, it is possible that under a voluntary structure the plan may not be sustainable, and at lower levels of participation this risk is greater.

10% Participation

Figure 3 summarizes the issue age 65 starting premiums with 10% participation instead of 100% participation, mandatory enrollment. We assumed the participants at this level would consist of all individuals requiring assistance with one or more ADLs or with any cognitive impairment, plus a small portion of individuals with fair to poor health and no ADL limitations or cognitive impairment, as shown in Exhibit 1. All other assumptions from the 100% participation scenario remain unchanged.

Figure 3:
Issue Age 65 Starting Premium PMPMs
85% Loss Ratio
10% Participation

Discount Rate	10% Participation Scenario	100% Participation Scenario	Difference (%)
3%	$134	$55	144%
4%	$128	$51	151%
5%	$123	$47	162%

20% Participation

Figure 4 summarizes the issue age 65 starting premiums with 20% participation instead of 100% participation, mandatory enrollment. We assumed the participants at this level would consist of all individuals requiring assistance with one or more ADLs or with any cognitive impairment, plus half of individuals with fair to poor health and no ADL limitations or cognitive impairment, as shown in Exhibit 1. All other assumptions from the 100% participation scenario remain unchanged.

Figure 4: Issue Age 65 Starting Premium PMPMs 85% Loss Ratio 20% Participation			
Discount Rate	**20% Participation Scenario**	**100% Participation Scenario**	**Difference (%)**
3%	$94	$55	71%
4%	$89	$51	75%
5%	$85	$47	81%

40% Participation

Figure 5 summarizes the issue age 65 starting premiums with 40% participation instead of 100% participation, mandatory enrollment. We assumed the participants at this level would consist of all individuals requiring assistance with one or more ADLs or with any cognitive impairment, individuals with fair to poor health, and a small portion of the healthiest individuals, as shown in Exhibit 1. All other assumptions from the 100% participation scenario remain unchanged.

Figure 5: Issue Age 65 Starting Premium PMPMs 85% Loss Ratio 40% Participation			
Discount Rate	**40% Participation Scenario**	**100% Participation Scenario**	**Difference (%)**
3%	$70	$55	27%
4%	$65	$51	27%
5%	$61	$47	30%

60% Participation

Figure 6 summarizes the issue age 65 starting premiums with 60% participation instead of 100% participation, mandatory enrollment. We assumed the participants at this level would consist of all individuals requiring assistance with one or more ADLs or with any cognitive impairment, individuals with fair to poor health, and a larger portion of the healthiest individuals, as shown in Exhibit 1. All other assumptions from the 100% participation scenario remain unchanged.

Figure 6: Issue Age 65 Starting Premium PMPMs 85% Loss Ratio 60% Participation			
Discount Rate	**60% Participation Scenario**	**100% Participation Scenario**	**Difference (%)**
3%	$61	$55	11%
4%	$57	$51	12%
5%	$53	$47	13%

III. PROGRAM STRUCTURE CONSIDERATIONS

BPC outlined the following general concepts for embedding a LTSS benefit within Medigap and Medicare Advantage plans.

Medicare beneficiaries will have a one-time opportunity to purchase the limited LTSS benefit in either MA or Medigap. If a beneficiary chooses not to purchase coverage, and they seek coverage later, plans may medically underwrite, permit coverage with a higher premium, or either of those (no guarantee issue). The one time opportunity will coincide with existing Medigap requirements. Two options under consideration for structuring the benefit include

1) *Individuals may select a new "J" Medicare supplemental policy or a MA plan, which include the LTSS benefit (not all Medigap or MA plans are required to include the LTSS benefit under this option)*

2) *All Medigap and MA plans will be required to include the limited LTSS benefit. For Medigap, any plan that is available for sale must include the limited LTSS benefit to be a "certified Medigap" plan.*

The remainder of this section summarizes our high-level considerations with respect to this program structure. Please note the considerations are not intended to be an all-inclusive list. These considerations (and factors beyond those listed here) will be important to address before implementing this new plan.

Adverse Selection

- The LTSS benefit contemplated by BPC allows Medicare-eligible beneficiaries at age 65 the opportunity to voluntarily elect or decline LTSS coverage. Option 1 allows choice among traditional Medicare (no LTSS), Medigap (with or without LTSS), and MA coverage (with or without LTSS). Option 2 allows choice between Medigap / MA (with LTSS) and traditional Medicare (no LTSS). This choice is combined with providing guaranteed coverage regardless of health status at age 65. A structure that allows individuals choice with guaranteed coverage is exposed to adverse selection, where potentially only those with higher LTSS needs enroll in the program.

- It is possible the LTSS coverage could reach an unsustainable "tipping" point where lower-risk individuals choose to not purchase a policy, leaving only higher-risk individuals covered. This could create a rate spiral environment where premium rates can never match the risks covered under the policy.

- Private LTC insurance coverage uses underwriting to address adverse selection concerns and develop premium rates consistent with the expected claims of a group of individuals, given their LTC needs. The proposed structure by BPC forgoes underwriting during the Medigap "open enrollment" election period, increasing the challenge of matching premium rates to the underlying risk.

- In the absence of underwriting, the structure proposed by BPC should consider steps to limit individuals' ability to anti-select against the LTSS coverage. One example is a waiting period, which attempts to use "time" to mitigate anti-selection by creating a gap between when individuals elect coverage and when they can begin using benefits.

Pricing

- LTSS costs can vary significantly by variables such as age, gender, and geographic area. Cross-subsidies where rates do not reflect cost differences will require the pricing process to accurately anticipate the distribution of individuals by those key variables.

- Medigap
  - Medigap premiums include expense loads to reflect the cost for selling the policy (known as commissions). The LTSS pricing will need to consider whether these costs are also applicable to the LTSS coverage.
  - Private LTC policies have typically experienced “high persistency,” where only a small percentage of individuals lapse coverage each year. The pricing process will need to consider whether this pattern also will impact the Medigap coverage. A pricing model that integrates both supplemental Medicare coverage and LTSS coverage should be considered.
  - Medigap premium rates typically have an “inflationary” component, where rates are increased annually to reflect changes in costs. The combined pricing of the Medigap policy will need to consider this inflationary effect along with the built-in increasing premiums tied to CPI for the LTSS coverage.
- Medicare Advantage
  - The MA market is highly price-sensitive. Although BPC intends to target a lower premium through a limited LTSS benefit, any changes to the current environment could dramatically disrupt the market.
  - Many plans in the MA market target $0 or very low premiums. Under Option 1, where not all plans are mandated to offer the LTSS benefit, plans would need to find additional savings from Centers for Medicare & Medicaid Services (CMS) payment rates to maintain a low premium.

Operational and Other Financial

- The pricing in the report is on an issue-age basis with prefunding. This means excess premiums over claims and expenses in the early years of a policy are set aside to pay future obligations where claims and expenses exceed premiums. Because individuals are allowed to freely move and enroll in different plans from year to year, a credit or reserve transfer will be needed between the old and new insurance carrier.
- The LTSS benefit includes limited coverage such that individuals can exhaust the benefit. The structure will need to consider how to handle individuals’ choices after benefit exhaustion and the potential impact on rates to charge beneficiaries.
- The LTSS benefit priced in this report reimburses actual costs up to the specified daily limit. It is unclear under the BPC structure whether a new standard or fee schedule of payment rates to home healthcare providers would be established.
- Medigap
  - Because individuals can opt out of coverage, Medigap plans will need to consider whether the LTSS coverage is included within a base policy or offered as a rider.
  - Policies in most states are rated by attained age, while the LTSS coverage modeled in this report is rated by issue age. Medigap plans will need to think through the differences in rating approaches for developing premiums and projecting future financial performance.

- Medicare Advantage
  - Companies in the MA market are only making an agreement to provide coverage for the next year. This “promise” will need to be considered in light of the LTSS benefit, which provides coverage over an individual’s life.
  - A process will need to be established to track lifetime limits as people switch from company to company. This will be critically important as someone approaches exhausting or has already exhausted LTSS benefits.
  - A process for LTSS benefits will need to be considered for risk adjustment or corridors to reflect the financial risk carriers or health plans take on and how financial performance is adjusted when individuals switch plans.

Regulatory

- Medigap
  - The LTSS benefit proposed by BPC may require a change in federal legislation and / or National Association of Insurance Commissioners (NAIC) model regulation to the extent that a uniform nationwide process is desired. A potential approach could include filing as an innovative benefit within a state, but not all states allow innovative benefits.
  - The LTSS structure will need to review how state variations are handled, including any mandating of benefits, and how the LTSS benefit may be impacted by new regulation, such as Medicare Access and CHIP Reauthorization Act of 2015 (MACRA).
- Medicare Advantage
  - Legislative limitations on MA coverage is governed by federal laws. Rules for the new LTSS coverage within MA may need to be approved at the federal level, such as rules as to what happens if a person changes plans.
  - Our understanding is that states would not be able to mandate the LTSS benefit in all MA plans; only the federal level could approve mandating benefits. This may include addressing the potential inequity issue of mandating a LTSS benefit in MA plans but not in traditional Medicare.
  - We anticipate the new LTSS benefit (similar to Medicare benefits) may be subject to new requirements, such as network adequacy, new quality measures, and an appeals / grievances process. These additional costs would need to be considered in light of any expense loads included in the premium rates.

Covered Population

- Currently, only non-Medicaid individuals can buy Medigap policies. Lower-income MA enrollees will likely be particularly sensitive to any changes in premium rates. Our premium development assumed all individuals, including those eligible for Medicaid, were enrolled in the LTSS benefit.
- Any limits or restrictions on the covered population will need to be examined carefully, given the intertwined nature of premiums, morbidity, and the level of LTSS risk underlying the covered population.

IV. ALTERNATIVES AND SENSITIVITIES

The modeling results in this report are highly dependent on the plan design specifications and are sensitive to the pricing assumptions selected. We summarize in this section various design alternatives we analyzed per BPC's request, along with sensitivity tests of select pricing assumptions. We also provide additional background to illustrate the sensitivity of premiums to changing participation assumptions.

PLAN DESIGN ALTERNATIVES

$50 Daily Benefit Alternative

Figure 7 summarizes the issue age 65 starting premiums for a $50 daily benefit (DB). All other assumptions from the base plan remain unchanged (i.e., compared with a $100 DB).

Figure 7:
Issue Age 65 Starting Premium PMPMs
85% Loss Ratio
$50 Daily Benefit

Discount Rate	$50 DB Alternative	Base Plan	Difference (%)
3%	$28	$55	-50%
4%	$26	$51	-50%
5%	$24	$47	-50%

As shown in Figure 7, reducing the daily benefit by 50% also reduces premiums by 50%. The trade-off is that individuals will have to pay more costs out of pocket to the extent the actual cost of care exceeds $50 per day.

$75 Daily Benefit Alternative

Figure 8 summarizes the issue age 65 starting premiums for a $75 daily benefit. All other assumptions from the base plan remain unchanged (i.e., compared with a $100 DB).

Figure 8:
Issue Age 65 Starting Premium PMPMs
85% Loss Ratio
$75 Daily Benefit

Discount Rate	$75 DB Alternative	Base Plan	Difference (%)
3%	$42	$55	-25%
4%	$38	$51	-25%
5%	$35	$47	-25%

As shown in Figure 8, reducing the daily benefit by 25% also reduces premiums by 25%. The trade-off is that individuals will have to pay more costs out of pocket to the extent the actual cost of care exceeds $75 per day.

Elimination Period Alternative

Figure 9 summarizes the issue age 65 starting premiums for a 180-day elimination period. All other assumptions from the base plan remain unchanged (i.e., compared with a 90-day elimination period). Increasing the elimination period reduces premiums by roughly 14%.

Figure 9:
Issue Age 65 Starting Premium PMPMs
85% Loss Ratio
180-Day Elimination Period

Discount Rate	180-Day EP Alternative	Base Plan	Difference (%)
3%	$48	$55	-13%
4%	$44	$51	-14%
5%	$40	$47	-15%

PRICING ASSUMPTION SENSITIVITIES

Population Mortality Alternative

Figure 10 summarizes the issue age 65 starting premiums when using an alternative population mortality table, the United States Life Tables from 2012 of the Centers for Disease Control and Prevention (CDC). All other assumptions from the base plan remain unchanged. If mortality rates were closer to this alternative table, premium rates would be roughly 6% lower.

Figure 10:
Issue Age 65 Starting Premium PMPMs
85% Loss Ratio
Census Population Mortality

Discount Rate	Mortality Alternative	Base Plan	Difference (%)
3%	$52	$55	-5%
4%	$48	$51	-6%
5%	$44	$47	-6%

Morbidity Improvement Alternative

Figure 11 summarizes the issue age 65 starting premiums when assuming annual morbidity improvement equal to 1% for the first 10 years of the policy. All other assumptions from the base plan remain unchanged.

Figure 11:
Issue Age 65 Starting Premium PMPMs
85% Loss Ratio
Morbidity Improvement

Discount Rate	Morbidity Improvement Alternative	Base Plan	Difference (%)
3%	$51	$55	-7%
4%	$47	$51	-8%
5%	$43	$47	-9%

Mortality Improvement Alternative

Figure 12 summarizes the issue age 65 starting premiums when assuming annual mortality improvement equal to 0.5% for the first 10 years of the policy. All other assumptions from the base plan remain unchanged.

Figure 12:
Issue Age 65 Starting Premium PMPMs
85% Loss Ratio
Mortality Improvement

Discount Rate	Mortality Improvement Alternative	Base Plan	Difference (%)
3%	$57	$55	4%
4%	$52	$51	2%
5%	$48	$47	2%

Morbidity and Mortality Improvement Alternative

Figure 13 summarizes the issue age 65 starting premiums when assuming both annual morbidity improvement equal to 1% and annual mortality improvement equal to 0.5%, both for the first 10 years of the policy. All other assumptions from the base plan remain unchanged.

Figure 13:
Issue Age 65 Starting Premium PMPMs
85% Loss Ratio
Morbidity and Mortality Improvement

Discount Rate	Morbidity and Mortality Improvement Alternative	Base Plan	Difference (%)
3%	$52	$55	-5%
4%	$48	$51	-6%
5%	$44	$47	-6%

SENSITIVITY TEST ILLUSTRATION: PARTICIPATION ASSUMPTIONS

The results shown in Figures 2 through 6 in the Base Plan Premium Results section above demonstrate that premiums are highly sensitive to even small incremental changes in participation, particularly at low starting participation levels. This dynamic could create a “tipping” point where a program is unsustainable as lower-risk individuals choose not to purchase a policy, leaving only higher-risk individuals.

To further illustrate this pattern graphically, the chart in Figure 14 shows the change in morbidity factors for a sample policy duration (policy duration 20) by different participation levels for the population currently needing no help with ADLs and no signs of cognitive impairment. All other cohorts are assumed to participate at 100%.

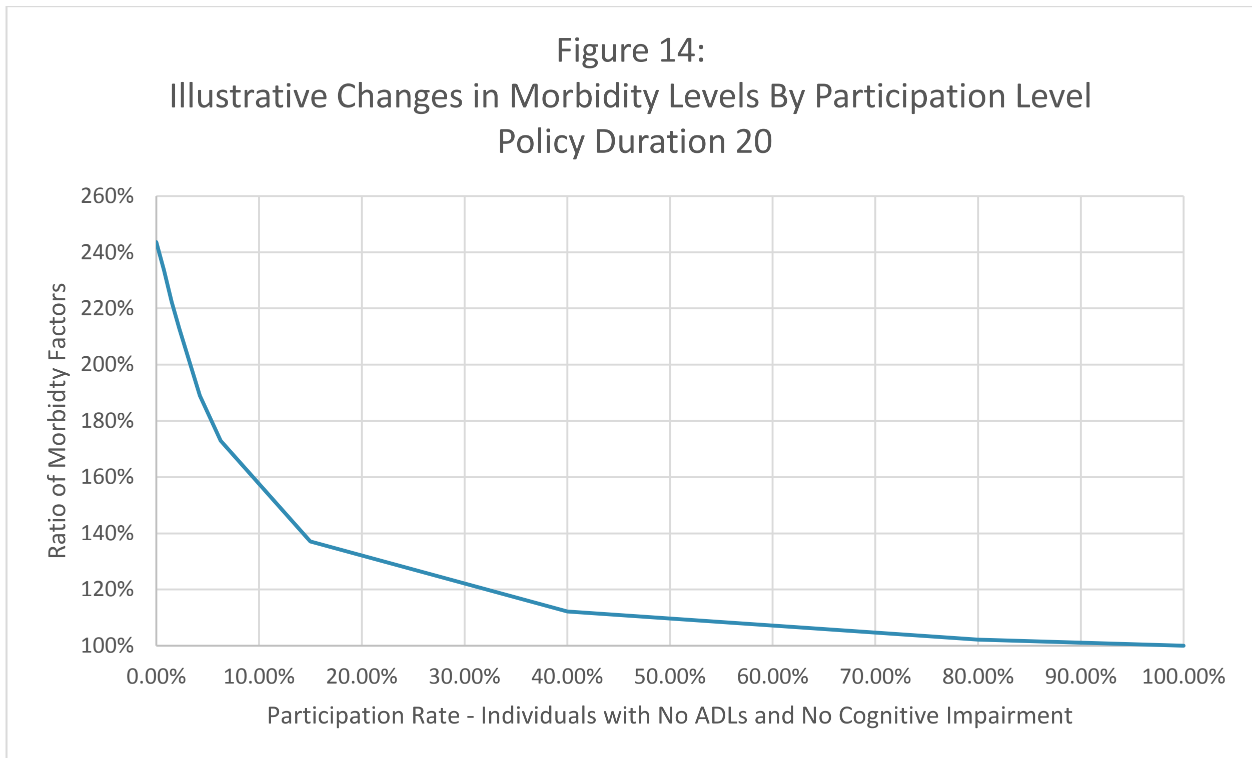

Figure 14 helps highlight that small changes to the participation rate at low participation levels can have a significant impact on anticipated morbidity levels. Conversely, at higher levels of participation, changes to the participation rate have a smaller incremental effect on anticipated morbidity levels.

V. METHODOLOGY AND ASSUMPTIONS

The premium estimates presented in this report were developed from various illustrative LTC pricing assumptions. The information provided should not be interpreted as recommending rates, assumptions, or approaches for LTC pricing. The rates, assumptions, and approaches were constructed starting with our general knowledge of the private LTC market. They are not attributable to any specific company and should not be viewed as best estimates.

BASE PLAN PRICING MODEL

We developed monthly premiums for an individual starting in the insurance program at age 65 and remaining in the program for the individual's entire life. We assumed an individual remains in the program and still continues to pay premium even if he is currently receiving benefits or has exhausted his LTSS benefit.

Base Claim Cost Development

- The base annual home health claim costs were developed using the 2014 Milliman *Long-Term Care Guidelines* (*Guidelines*). The incidence and continuance tables in the *Guidelines* are developed based on approximately $25 billion of LTC private market insured claim experience from 450,000 claims. The *Guidelines* provide a flexible but consistent way to develop expected claim costs for various benefit packages, demographic splits, and underwriting levels. The base claim costs derived in this analysis vary by attained age, gender, and discount rate.

- We applied adjustments to the base claim costs to convert from a privately insured population to the general Medicare-eligible population, assuming 100% of these individuals will be enrolled in the benefit. We focused on individuals at issue age 65 and proceeded to “track” them through their remaining lifetimes. To calculate the adjustments, we leveraged prior analysis conducted using data from the Urban Institute.

- No morbidity improvement was assumed.

- The *Guidelines* include a set of benefit richness factors to account for the induced / reduced utilization that is due to the various elimination period or benefit period options offered in stand-alone LTC plans. Given that there are no “options” for this LTSS benefit, these benefit richness factors were not applied.

- Benefit utilization (also called “salvage”) arises because of the service reimbursement structure, where maximum benefits will not be paid fully each day in all cases, which is due to the actual cost of care being lower than the benefit limit (“dollars” salvage) or services not being provided every day (“days” salvage). We assumed 100% “dollars” utilization and 70.5% “days” utilization.

- The demographic distribution was derived using the same population assumptions used in adjusting the base claim costs as described above.

Persistency Assumptions

We applied persistency expectations to base claim costs to develop incurred claim dollars per month while in the program.

- Mortality:

  – 90% of the 1994 Group Annuitant Mortality (94GAM) Static Table, adjusted to a general Medicare-eligible population following a similar “tracking” approach to the morbidity development described above.

  - Selection factors of 0.40 in duration 1, grading up to 1.00 for durations 10 and later.
  - No mortality improvement was assumed.

- No lapses were assumed.
- Benefit exhaustion based on *Guidelines* continuance tables.

PARTICIPATION ASSUMPTIONS

The mix of participation by estimated levels of LTSS need is critically important for developing premiums. Our approach started with cohort data from the Urban Institute's model output to help estimate morbidity levels. The Urban Institute's cohort data allowed us to consider both individuals' health and wealth characteristics that might influence their insurance purchase decisions and individuals' progression over their lifetimes for meeting the HIPAA claim trigger.

The Urban Institute's model output was divided into 18 cohorts to allow us to vary participation by health status and LTSS need under the various reform options. Exhibit 1 provides a summary of the participation rates assumed within each cohort. The participation rates shown in Exhibit 1 are designed to represent starting participation rates at issue age 65.

The 18 cohorts were defined based on an individual's current level of health and LTSS need as follows:

- Number of ADLs needing assistance (three options): 0, 1, or 2+.
- Level of cognitive impairment (three options): none, mild, severe.
- General health status (two options): good-excellent, poor-fair.

We constructed morbidity selection adjustments to apply to the *Guidelines* by observing morbidity levels by attained age over an individual's remaining lifetime under various participation scenarios. The adjustments were calculated relative to observed morbidity under an assumed participation level for a fully underwritten population, leveraging work from our prior analysis with the Urban Institute.[1]

[1] Giese, C.J. & Schmitz, A.J. (November 17, 2015). Premium Estimates for Policy Options to Finance Long-Term Services and Supports. Milliman Client Report. Retrieved April 12, 2017, from http://www.thescanfoundation.org/sites/default/files/milliman_report_-_premium_estimates_for_policy_options_to_finance_ltss.pdf.

VI. CAVEATS AND LIMITATIONS

This report has been prepared for the Bipartisan Policy Center (BPC). Milliman does not intend to benefit, or create a legal duty to, any third-party recipient of this work. This communication must be read in its entirety.

The information in this report provides premium illustrations for a limited LTSS benefit. It may not be appropriate, and should not be used, for other purposes.

In completing this analysis we relied on information provided by BPC and publicly available data, which we accepted without audit. However, we did review this information for general reasonableness.

Many assumptions were used to construct the estimates in this report. Actual results will differ from the projections in this report. Experience should be monitored as it emerges and corrective actions taken when necessary.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. The actuaries listed at the beginning of this report are members of the American Academy of Actuaries and meet the qualification standards for performing the analyses in this report.

EXHIBIT

Exhibit 1
Starting Participation Assumptions By Cohort at Issue Age 65
Assumed Percent Participating Within Cohort

Number of ADL Limitations	Cognitive Impairment Status	General Health Status	100% Participation	5% Participation	10% Participation	20% Participation	40% Participation	60% Participation
0	None	good-excellent	100.00%	0.00%	0.00%	0.00%	15.00%	45.00%
0	None	poor-fair	100.00%	0.00%	10.00%	50.00%	100.00%	100.00%
0	Mild	good-excellent	100.00%	75.00%	100.00%	100.00%	100.00%	100.00%
0	Mild	poor-fair	100.00%	75.00%	100.00%	100.00%	100.00%	100.00%
0	Severe	good-excellent	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
0	Severe	poor-fair	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
1	None	good-excellent	100.00%	0.00%	100.00%	100.00%	100.00%	100.00%
1	None	poor-fair	100.00%	0.00%	100.00%	100.00%	100.00%	100.00%
1	Mild	good-excellent	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
1	Mild	poor-fair	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
1	Severe	good-excellent	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
1	Severe	poor-fair	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
2+	None	good-excellent	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
2+	None	poor-fair	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
2+	Mild	good-excellent	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
2+	Mild	poor-fair	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
2+	Severe	good-excellent	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
2+	Severe	poor-fair	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%