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Mr. Luke Masselink, ASA, EA, MAAA
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Washington Office of the State Actuary
PO Box 40914
Olympia, WA 98504

[Sent via email: luke.masselink@leg.wa.gov]

Re: Washington LTSS Feasibility Study – No Minimum Age for Benefit Eligibility Alternative

Dear Luke:

The purpose of this letter is to provide draft, preliminary results from our analysis of the “no minimum age for benefit eligibility” plan alternative. Per your request, we are providing these draft results in advance of our final, comprehensive long-term services and supports (LTSS) feasibility study report to be delivered in October. As a result, **this information is provided as a draft for discussion purposes only and should not be relied upon for final decision-making. All numbers are subject to change.**

We outline below the draft results of this alternative test, and the methodology and assumptions used to complete this preliminary analysis.

DRAFT PRELIMINARY RESULTS

The requested alternative plan design models the premium assessment impact of additionally covering intellectually and developmentally disabled (IDD) individuals (i.e., individuals who were born with a disability or developed a disability before age 18), while the payout of any benefits would still be restricted until enrollees reach age 18. Since the same vesting requirements are still in place and we assume a relatively small percentage of the IDD population to become vested, the estimated impact to the premium rate for modifying benefit eligibility criteria for these individuals is relatively small compared to other alternatives, we were requested to test in our comprehensive report.

We estimate the Washington LTSS Trust Program would need to collect 1% to 3% more revenue in order to modify benefit eligibility for individuals who are born with a disability or develop a disability before age 18.

This result was achieved by adapting the Base Plan to have the following specifications:

1. We examined the prevalence by age and gender of intellectual or developmental disability among adults from an academic study¹ and calculated the incremental impact of providing benefits to the subset of these individuals that we assume would meet the vesting requirements.
2. Based on a review of employment data for the IDD population, we applied a 54% factor to our baseline vesting percentages (which are described in the Methodology and Assumptions section below) to account for the fact that individuals in this population are less likely to have stable, continuous work history.
3. We assumed IDD individuals would utilize the entire benefit pool of money upon becoming vested. As an example, an IDD individual assumed to be vested in 2025 is modeled to receive the full pool of money of \$36,500 in that year.

We provide a range of additional required revenue, because the result depends on whether Senate Joint Resolution 8212 (SJR8212) passes referendum later this year. This referendum would provide the LTSS Trust Program with increased flexibility to invest funds in higher earning assets. An increase in interest earned on the funds supporting the LTSS Trust Program would decrease the level of premium assessment needed.

¹ Durbin, A., et al. (June 20, 2019). Prevalence of intellectual and developmental disabilities among first generation adult newcomers, and the health and health service use of this group: A retrospective cohort study. Peer-reviewed academic study. Retrieved September 1, 2020, from <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0215804>.

METHODOLOGY AND ASSUMPTIONS

The Base Plan design modeled in this letter includes the following key features:

- Comprehensive covered services (similar to private market).
 - Institutional settings.
 - Includes skilled, intermediate, and custodial care provided in an institutional facility setting, such as a nursing home or dedicated wing of a hospital.
 - Home and community-based settings.
 - Includes care provided in a person’s own home or in a community-based setting, such as an assisted living facility or adult family home.
- Minimum age requirement for participation of 18.
 - Individuals are not eligible for program benefits until they turn age 18.
- Benefit eligibility (i.e., “benefit trigger”).
 - Individuals who have vested can draw benefits once they require assistance with a minimum number of activities of daily living (ADLs) or severe cognitive impairment. The type and minimum number of ADLs considered by care setting will be consistent with the current definitions used under the State of Washington Medicaid program.
- Starting pool of benefit dollars of \$36,500, indexing at 2.5% per year.
 - The pool of money can be used over an individual’s lifetime. The pool of money grows each year tied to a consumer price index, which we assume to be 2.5% annually.
- No daily benefit cap.
 - In the absence of a daily benefit cap, we assume individuals will spend the average cost of care per day observed in the private market for receiving benefits.
- Reimbursement benefit structure.
 - Benefits are paid only as reimbursement for an individual’s actual expenses incurred.
- Elimination period of 45 days.
 - Benefit payment commences following satisfaction of a one-time “deductible” period of 45 consecutive days during which the individual has a qualifying level of disability meeting the benefit eligibility trigger.
- Vesting by premium assessment payments in three of last six years, or 10 years total.
 - To be eligible for benefits, individuals must pay the premium assessment for a specified number of years, known as the vesting period. Vesting is considered satisfied if payroll premium assessment payments were made in three of the last six years, or in 10 total years during an individual’s work history.
- No portability.
 - Only individuals living in the state of Washington are eligible for benefits.
- Program revenue source is payroll premium assessment on wages.
 - Financing for the program will come solely from premium assessment payments. There are no premiums required once an individual no longer receives wages.

- Administrative load of 3.5% of income and 3.5% of benefits
 - To cover the expenses of administering the program, administrative loads are applied to the program's expected income and benefit payments.
- Private Market Opt-Out
 - Current legislation is designed to allow individuals to opt out of the program over the course of a window from October 1, 2021 through December 31, 2022, given they self-attest to owning private market long-term care coverage. While the level of individuals who choose to opt-out of the program is unknown, we assume that 20% of the top decile of wage earners and 10% of the second decile of wage earners will opt out of the program. This assumption was determined by Washington Department of Social and Health Services (DSHS).
- Self-Employed Opt-In
 - Current legislation is designed to allow participation for self-employed individuals to be fully voluntary, where they are only enrolled after "opting in" to the program. While the level of individuals who choose to participate in the program is unknown, we assume that the program will collect 10% of self-employed wages, but 100% of benefits will be paid (as a proxy for adverse selection considerations). This assumption was selected through conversations with Washington Office of the State Actuary and DSHS.

We projected long-term care beneficiaries and costs using Milliman's modeling software, MG-ALFA®. The projection started with the current population of the state of Washington by age, sex, and region, and projected forward for 75 years. The projected Washington population is estimated based on the number of births, deaths, and net migrants in each future year.

To calculate the long-term care beneficiaries and costs for the projected population in each year, the model utilizes Milliman's proprietary Long-Term Care (LTC) Guidelines (Guidelines) calibrated from an insured basis to the Washington population characteristics. The Guidelines provide frequencies, continuance curves, utilization assumptions, and claims costs developed from a large number of product designs, based on data from the past two decades. The Guidelines incorporate both private and public sector data sources. The Guidelines are updated triennially to reflect the most comprehensive and current information available in the market. The breadth of underlying data and the comprehensiveness of analysis make the Guidelines the industry-recognized benchmark for LTC morbidity.

The projection spans the 75-year period 2022 through 2096. A 75-year projection has been established by the Social Security Administration (SSA) and the Centers for Medicare and Medicaid Services (CMS) as the standard projection period for determining the actuarial balance of a public insurance program. The 75-year period covers the expected lifetime of the vast majority of residents just entering their working ages. Thus, a 75-year projection period covers all the working years and all of the benefit years of those just beginning their participation.

The cash flow consists of income to the program from premiums and interest on the fund. Outgo from the program consists of benefit payments for nursing home, assisted living, or home care services and administrative expenses. We projected each of these items on a year-by-year basis for 75 years.

DEMOGRAPHIC ASSUMPTIONS

The demographic assumptions relate to the projection of the population of Washington. For a pay-as-you-go public insurance program, the covered population is of fundamental importance in the estimation of costs. The income to the program depends on the number of contributors and the outgo of the program depends on the number of beneficiaries, most of whom are aged 65 or over. Estimates of the number of contributors and of the number of beneficiaries are based on the population projection.

The estimate of the resident population starts with the census count of the resident population for Washington by age and sex as of 2016. We use a 2016 starting population to build up a stable disabled population and appropriately reflect LTC prevalence at the time of first program payments (2025). The model projects the Washington population by estimating the number of births, deaths, and net migrants for each future year.

Starting population

The estimate of the 2016 starting population is from the American Community Survey (ACS) five-year data release files. This survey was used to tabulate state population estimates by age and sex and is the starting point for the Washington population projection.

Migration

Net migration to Washington is based on the State of Washington Office of Financial Management (OFM) "Forecast of the State Population" from December 2019. The relativities of state-to-state immigration and emigration, as well as immigration and emigration into and out of the United States, are tabulated from the American Community Survey (ACS) five-year data release files. The data files are used to calculate the distribution by age and sex of domestic and international net migration into and from Washington. Yearly totals of immigrants and emigrants are based on the relativities noted above. Individuals who emigrate are tracked separately in the model. The model does not track the legal status of immigrants or emigrants.

Births

The number of births in Washington are estimated using the projected birth rates from the Centers for Disease Control and Prevention's (CDC's) National Vital Statistics Report on births. These birth rates are trended according to the fertility rate projection provided in the 2020 OASDI Trustees Report.

Deaths

We applied separate mortality rates to the active (or "healthy") lives and disabled lives.

- Active life mortality: Current and projected U.S. active life mortality rates by age and sex were calculated using multiple sources, including the Guidelines, 2020 OASDI Trustees Report (after backing out disabled life mortality), Society of Actuaries (SOA) 2012 Individual Annuity Mortality (IAM) table (after backing out disabled life mortality), and SOA Intercompany data.
- Disabled life mortality: Current and projected U.S. disabled life mortality rates by age, sex, duration, and care setting were calculated from Milliman's proprietary Guidelines.

The projected U.S. mortality rates were calibrated to Washington using the CDC's age-adjusted mortality rates by state. This data shows that Washington's mortality rates are 6% to 10% less than the national average.

Mortality improvement rates by age and sex were estimated from the 2020 OASDI Trustees Report. The Trustees Report mortality rates are projected through 2095.

As a final step, projected lives by calendar year were compared against the State of Washington Office of Financial Management projections from December 2019.

ECONOMIC ASSUMPTIONS

Economic parameters concerning trends in the labor force, wages, and costs of LTC services are of primary importance for the projection of the income and outgo of the LTSS Trust Program. Because the program is financed by a payroll premium assessment, the labor force participation and wage level will directly affect annual program income. The interest rate assumption is important, because it affects the interest income earned by the fund (and the present value of the future cash flows).

Labor force participation and unemployment

The U.S. labor force participation rates (LFPR) and unemployment rates (UR) by age and sex are from the 2020 OASDI Trustees Report. These rates are adjusted to Washington-specific levels using the ratio of Washington LFPR to U.S. LFPR, and Washington UR to U.S. UR. Washington-specific and U.S. employment data for this adjustment comes from the U.S. Bureau of Labor Statistics (BLS) Local Area Unemployment Statistics. This data is used to project the labor force and unemployment rate in each year of the projection period. The labor force is calculated in order to estimate the payroll assessment base in each year. The labor force calculations do not take into account workers' legal status.

Wages

Projections of U.S. average taxable earnings from 2018 to 2095 are found in the 2020 OASDI Trustees Report. Taxable earnings are the amount of wages subject to the Social Security payroll tax. Taxable earnings for years after 2095 are projected using the five-year trend from 2091 to 2095. In order to estimate the Washington tax base, we adjust the average U.S. earnings to Washington-specific earnings by the ratio of the average wage in Washington over the average wage in the United States. We grade off the Washington-specific wage adjustment over 20 years, assuming that over time wages will approximate national average wages. Wage data for this adjustment comes from BLS Occupational Employment Statistics. We then convert the taxable earnings into covered earnings using the ratio of taxable earnings to covered earnings from the 2020 OASDI Trustees Report. Average covered earnings are multiplied by the labor force in a given year to determine the payroll assessment base in that year.

We assumed average increases in wages are the same as those assumed in the OASDI Trustees Report, with an ultimate wage trend of 3.55% per year.

Vesting

In order to become eligible for benefits, a worker must become vested (or in other words, become insured). To vest in the LTSS benefit, an individual must work and pay premiums for a specified number of years. We used the 2006 Social Security Earnings Public Use Microdata File to estimate the percentage of Washingtonians that would become vested by age, sex, and projection year. This data provides annual earnings information (i.e., a lifetime earnings profile) for a 1% random sample of all Social Security numbers issued before January 1, 2007.

Individuals are fully vested if they work more than 500 hours per year for three of the last six years, or for 10 years total over their lifetimes. To find the percentage of the working population meeting these requirements, we observed the work histories of the random sample of data. For each age, the percentage of individuals who had recorded income for three of the previous six years or eight years total is tabulated. We used eight instead of 10 years in this tabulation, because becoming insured under this program provides an added incentive to continue working for those who are almost insured. For each year of the program, we vary the number of years of work history to be included in this tabulation. For example, in year 10 of the program, we only considered work history for individuals going back 10 years to estimate vesting percentages. Because of this, the vesting percentages by age and gender vary in each program year. We used the American Time Use Survey to determine the percentage of workers who work more than 500 hours per year (approximately 95%) and applied this percentage to the vesting percentages by age, gender, and program year.

We observed that females' work histories changed significantly since the beginning of the data collection period in 1951, with the last five to 10 years of data approximating the male work history. As such, we set the female vesting percentages equal to the male vesting percentages.

We did not vary the migration assumptions for individuals who migrated into Washington. This is a conservative assumption, since we assume that individuals may bring their work histories with them returning to Washington (and thus claim earlier). This assumption is appropriate given that we do not know how many individuals moving into the state lived in Washington previously and would be moving into the state with some relevant work history.

Based on a review of employment data for the IDD population, we applied a 54% factor to our baseline vesting percentages to account for the fact that individuals in this population are less likely to have stable, continuous work history.

Interest rates

The interest rates used are based on our projection of future net investment earned rates (NIERs) rates under two scenarios: SJR8212 fails and SJR8212 passes. Under the current law, the NIER starts at 0.5% in 2022, grows to 2.3% by 2047, and remains at 2.3% for the remaining years of the projection. This reflects a strategy of investing only in Treasuries. Under Amendment SJR8212, the NIER starts at 3.4% in 2022, grows to 4.8% by 2047, and remains at 4.8% for the remaining years of the projection. This reflects a strategy of investing 30% in equities and 70% in fixed income (interim credit levels).

The NIER reflects expected investment returns on the LTSS Trust Program fund balance net of investment expenses and the cost of defaults.

MORBIDITY ASSUMPTIONS

To calculate the long-term care beneficiaries and costs for the projected population in each year, we utilized Milliman's proprietary Guidelines. We did not assume any morbidity improvement as part of our modeling.

We assumed IDD individuals would all utilize the entire benefit pool of money upon becoming vested. As an example, an IDD individual assumed to be vested in 2025 is modeled to receive the full pool of money of \$36,500 in that year.

Eligibility criteria

Frailty has traditionally been measured by a person's ability to perform activities of daily living (ADLs). As originally conceived by Katz in his paper "A Measure of Primary Sociobiological Functions," there were six ADLs: bathing, dressing, transferring, continence, toileting, and eating. Later, some researchers proposed mobility (i.e., the ability to get about inside of a house), and others the taking of medication, as additional ADLs. This original measure of frailty has been expanded to include cognitive ability in addition to physical abilities as indications of the need for long-term care services.

The type and minimum number of ADLs considered by care setting is assumed to be consistent with the current definitions used under the State of Washington Medicaid program

Benefit utilization

The model assumes, in the absence of a daily benefit cap, that individuals will spend the average cost of care per day observed in the private market for receiving benefits by care setting. It is assumed that home care beneficiaries receive services on roughly 70.5% of days.

Incidence calibration

The Milliman Long Term Care Guidelines incidence rates are representative of a fully insured population. A fully insured population will have different morbidity from the population under this program for a few reasons, including:

- Insured data may have inherent anti-selection as it reflects individuals who choose to purchase care and may have reason to believe they will need care in the future.
- Insured data reflects a higher-income population, which is generally composed of healthier lives with lower morbidity.
- Most individuals insured in the private market had to complete underwriting, ensuring they were relatively healthy at least when they first purchased coverage. There is no underwriting qualification associated with the public program in this study, although individuals will need to be at least healthy enough to satisfy vesting requirements.

We calibrated the incidence rates to a general population basis using a variety of data sources, including selection factors from the Guidelines and other industry general population prevalence studies. While general population data exists, morbidity data reflecting a "public option" program does not exist. It is unknown how individuals will react to having a public benefit available.

ADMINISTRATIVE EXPENSES

Given the administration structure of the program is unknown, we assumed administration expenses to be 3.5% of revenue and 3.5% of benefits based on our discussions with OSA and DSHS, and our high-level review of other government programs and programs offering LTC benefits.



CAVEATS AND LIMITATIONS ON USE

This information is intended for the use of Washington Office of the State Actuary (OSA) and the Washington Department of Social and Health Services (DSHS) and it should not be distributed, in whole or in part, to any external party without the prior written permission of Milliman, subject to the following exception as required by statute:

- The LTSS Trust Statute (RCW 50B.04) requires the LTSS Trust Commission to provide “recommendations on whether and how to extend coverage to individuals who became disabled before the age of eighteen, including the impact on the financial status and solvency of the trust. The commission shall engage affected stakeholders to develop this recommendation.”

We do not intend this information to benefit any third party even if we permit the distribution of our work product to such third party. This information is provided as a draft for discussion purposes only and should not be relied upon. All numbers are subject to change.

This information provides a preliminary look at the results of the “no minimum age for benefit eligibility” plan alternative test in advance of our final, comprehensive report to be delivered in October. This letter should not be used for any other purpose.

In preparing this analysis, we relied on data and other information provided by OSA, DSHS, and publicly available data, which we accepted without audit. However, we did review this information for general reasonableness. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.

In order to provide the information requested by OSA, we have constructed several projection models. Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions made for this analysis. It is certain that actual experience will not conform exactly to the assumptions used in this analysis. Actual amounts will differ from projected amounts to the extent that actual experience deviates from expected experience. 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. I am a member of the American Academy of Actuaries, and meet the qualification standards for performing the analyses in this communication.

The terms of Personal Service Contract with OSA effective February 26, 2020, apply to this engagement.



Luke, please call me at 262 796 3407 if you have any questions.

Sincerely,

Christopher Giese, FSA, MAAA
Principal and Consulting Actuary

CJG/zk