Long-Term Care Actuarial Valuation

As of June 30, 2024

CalPERS

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Actuarial Certification

April 2025

To the best of our knowledge, this report is complete and accurate and contains sufficient information to fully and fairly disclose the funded condition of the CalPERS Long-Term Care Program as of the valuation date. This valuation is based on the participant and financial data as of June 30, 2024. It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles and the standards of practice prescribed by the Actuarial Standards Board and that the assumptions and methods are internally consistent and reasonable for the Program related to actual and anticipated future experience.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

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Highlights and Executive Summary

Introduction

This is the actuarial valuation report as of June 30, 2024 for the CalPERS Long-Term Care Program (the Program). The financial projections used in this valuation analysis were produced under the First Principles Model by using the June 30, 2024 in-force data and updated assumptions. Oliver Wyman completed a parallel valuation as the consulting actuary for CalPERS, and CalPERS' valuation results are adequate compared to the Oliver Wyman's valuation results.

This actuarial valuation uses best estimate assumptions that are appropriate as of the date of valuation and these assumptions do not include any margin for adverse deviation. Assumptions could change as more information becomes known, which would impact the funded status reported in this valuation. The model, scenarios, and all assumptions were reviewed and updated this year. This report summarizes the approach, assumptions, and results of the actuarial valuation of the CalPERS Long-Term Care (LTC) Program as of June 30, 2024. For information on the sensitivity of the valuation results to changes in the actuarial assumptions, please refer to the "Risk Analysis" section and Appendices A and B.

Purpose of the Report

The purpose of the June 30, 2024 actuarial valuation report of the CalPERS Long-Term Care Program is to:

- Determine whether assets as of June 30, 2024, expected future premium levels, and future investment returns are sufficient to support future benefits.
- Provide actuarial information as of June 30, 2024 to the CalPERS Board of Administration and other interested parties.
- Provide information as of June 30, 2024 relevant to CalPERS financial statements.

Use of this report for other purposes may be inappropriate. More detailed information can be provided upon request.

Funded Status and Margin for the Program

As of June 30, 2024, the Program's funded status is 94% (an increase from 90% last year) and the margin is negative 10.58% (an increase from negative 19.01% last year). During the 2023-24 fiscal year, the Program experienced an 8.9% investment return which improved the margin. This valuation reflects the approved premium rate increases starting in 2025 to be implemented over 2 years for non-partnership policies and over 3 years for partnership policies. The program's pending class action received final Court approval and was implemented in part during the 2023-24 fiscal year. This valuation reflects the program's population at June 30, 2024. For more details on the Program and the assumption changes, please see the "Key Assumption Changes and Findings" section. The table below provides the funded status and margin as of June 30, 2024.

Component	($ in Millions)
1)Present Value of Future Benefits	$6,726
2)Present Value of Future Expenses	$349
3)Present Value of Future Premiums (PVFP)	$2,493
4)Valuation Liabilities [(1+2) - (3)]	**$4,582**
5)Valuation Assets	$4,318
6)Valuation Margin [(5) – (4)]	**($264)**
7)Margin as a % of PVFP [(6) / (3)]	**(10.58%)**
8)Funded Status [(5) / (4)]	**94%**

The table below displays the funded status and the margin/(deficit) for the LTC Program over the last five years. The program's margin was positive in the 2020 valuation and reflected a stabilization plan adopted to change the asset allocation and increase premium rates. The higher-than-expected investment return and the Program's experience related to COVID-19 further increased the margin in the 2021 valuation. However, rising interest rates reduced the market value of fixed income assets and reduced the valuation margin to negative in the 2022 and 2023 valuations. Further refinements in the morbidity assumptions also contributed to the margin decreases since 2021. Higher-than-expected investment return and the premium rate increases to be phased-in starting in 2025 improved the margin in this valuation.

5-Year History of Funded Status and Margin

Valuation Date	Funded Status	Margin / (Deficit)
June 30, 2020	101%	1.34%
June 30, 2021	108%	10.51%
June 30, 2022	95%	(7.40%)
June 30, 2023	90%	(19.01%)
June 30, 2024	94%	(10.58%)

Key Assumption Changes and Findings

The key assumption changes and findings reflected in this actuarial valuation are as follows:

- The Program experienced an 8.9% investment return during the 2023-24 fiscal year, which improved the program's margin by 7.97%.
- This valuation reflects a 10% premium rate increase each year for two years starting in 2025 for non-partnership policies, and a 6.7% premium rate increase each year for three years starting in 2025 for partnership policies. These rate increases improved the margin by 21.01%.
- The actuarial assumptions were updated reflecting recent years' experience in general. The claim incidence assumption, which is part of the morbidity assumptions, was updated to reflect higher probability of claims for the age 92 and higher population. This update had a negative impact to the margin. The morbidity assumption updates overall reduced the margin by 3.26%.
- The program's pending class action received final Court approval and was implemented in part during the 2023-24 fiscal year. The cost was estimated to be $120 million. This estimate is conservative in light of pending settlement administration issues.
- Population changes in the program during the fiscal year reduced the margin further by 5.43%.

Summary of the Program's experience cashflows in the fiscal year 2023-24 are as follows:

- The Program's actual claim payment during the fiscal year was $361.1 million, which was 1%, or $3.6 million, lower than projected.
- The Program's actual premium collected in the 2023-24 fiscal year was $298.8 million.
- The Program experienced an investment return of 8.9% during the 2023-24 fiscal year. The investment return was $145.7 million higher than expected.
- The Program's actual expenses during the 2023-24 fiscal year was $26.5 million, which was 2.5%, or $0.7 million, lower than projected.

A complete reconciliation of the Program's margin/(deficit) is provided on page 9.

Changes Since the Prior Valuation

Actuarial Model

CalPERS uses a First Principles Model for the Program's valuation projection. Improvements to the projection model are made each year when necessary. The modeling improvements and revisions made for the 2024 valuation include:

- Converted from an Excel VBA based model to SLOPE which is a commercial actuarial modeling platform. This conversion improved modeling efficiency and flexibility.
- Modified the model to no longer split the claim projection by long or short duration claims. This modification is to accommodate assumption structure updates and improve modeling efficiency.

More information about the First Principles Based Model can be found in Appendix C.

Actuarial Assumptions

The First Principles Model uses multiple morbidity assumption components including claim incidence rates, claim termination rates, and claim utilization rates. The claim termination rates for the First Principles Model are also further refined into assumptions for claim recovery and on-claim death. The model tracks active life mortality and disabled life mortality separately. Lapse rates are only applied to active policies.

Each year, actual experience is measured against the assumptions made, which are then updated to reflect the actual experience. For the 2024 valuation, assumptions were updated to reflect more recent years' experience. Please refer to the "Reconciliation to Prior Year Valuation Results" section on page 9 for more information on the changes that were made. Assumptions are documented in more detail in Appendix C.

Premiums and Policies

As of June 30, 2024, there were 80,153 in-force policies with a total annualized premium amount of $326,374,292. CalPERS historically implemented corrective actions, including premium increases in 2003, 2007, 2010, 2015/2016, and 2021/2022 to stabilize the LTC Fund. These historical premium increases were reflected in the data of this valuation.

In the June 30, 2023 valuation, the Program was at an underfunded status due to lower-than-expected investment returns in recent years and an increased projection of future claim liability. To address this funding risk, the Board approved a 10% premium rate increase each year for two years starting in 2025 for non-partnership policies, and a 6.7% premium rate increase each year for three years starting in 2025 for partnership policies. These rate increases are included in the results of this valuation.

To reduce the impact of higher premiums on policyholders, options to convert to less expensive benefits are offered to policyholders. The benefit conversion elections will be implemented starting in the 2024-25 fiscal year. This valuation does not reflect conversions in the baseline projection but provides an estimated scenario with conversions in the sensitivity testing section. Please see the Sensitivity of Key Assumptions section for more detail.

The program's pending class action received final Court approval and was implemented in part during the 2023-24 fiscal year. Around 15,300 policyholders elected the settlement option to opt out from the program.

Subsequent Events

Since 2022, the Program's mortality and morbidity experience are reverting closer to pre-pandemic levels. There is still uncertainty regarding how these experiences will evolve over the long term. Future experience will continue to be monitored.

The inflation and interest rates in the economy have been higher in recent years. Volatility in the economic environment may lead to fluctuation in the investment return. Long-term care services have also experienced higher cost-of-care inflation in recent years. A prolonged high inflation environment may lead to higher-than-expected future claim costs.

Valuation Results

Comparison of Current and Prior Year Results

The results summarized throughout this report refer to margins and to funded status. A negative margin is an estimate of the level of a one-time rate increase in premiums needed to bring the Program back to a breakeven position which is a 0% margin. If the Program's current fund balance, future investment returns, and future premiums are adequate to cover the total costs of the Program, a 0% or positive margin would result. A second method of expressing the current financial status of the Program is the funded status. In general, the funded status is calculated by dividing the Program's assets by the valuation liabilities, or reserves. For the LTC Program, the valuation liabilities are equal to the present value of future benefits and expenses less the present value of participant premiums. This definition is consistent with a statutory gross premium valuation reserve for LTC insurance. In this context, a breakeven position is a funded status of 100% which is equivalent to a 0% margin.

When the Program has a funding surplus, both the funded status and the margin will be above the breakeven position, that is, the funded status will be greater than 100% and the margin will be greater than 0%. However, these two measures use different denominators. The amount of funded status above 100% measures the surplus, which is the amount of assets greater than the valuation liabilities, as a percentage of the valuation liabilities. The margin, when it is above 0%, measures the surplus as a percentage of the present value of future premiums. Therefore, a 110% funded status is not equivalent to a 10% margin. Similarly, when the Program has a funding deficit, both the funded status and the margin will be below the breakeven position. However, a 90% funded status does not produce a negative 10% margin, for example.

The table below summarizes and compares the CalPERS Long-Term Care Program's June 30, 2024 actuarial valuation results to its June 30, 2023 results, including the present values of future cash flows for the current in-force participants. These present values are based on 60 years of projected cash flows.

Component	6/30/2023 ($ in Millions)	6/30/2024 ($ in Millions)
1) Present Value of Future Benefits	$7,705	$6,726
2) Present Value of Future Expenses	$353	$349
3) Present Value of Future Premiums (PVFP)	$2,739	$2,493
4) Valuation Liabilities [(1+2) - (3)]	**$5,319**	**$4,582**
5) Valuation Assets	$4,798	$4,318
6) Valuation Margin [(5) – (4)]	**($521)**	**($264)**
7) Margin as a % of PVFP [(6) / (3)]	**(19.01%)**	**(10.58%)**
8) Funded Status [(5) / (4)]	**90%**	**94%**

This result shows that the Program currently has a deficit based on the experience up to June 30, 2024 and the current actuarial assumptions. Emerging experience and funding risk will continue to be monitored and be reflected in future valuations.

Liability cashflows were calculated based on a projection of expected future cash flows of in-force policies as of June 30, 2024. This projection used a set of underlying assumptions derived from the Program's historical experience, as well as industry experience in areas where CalPERS data does not have sufficient credibility. Policies were projected on a seriatim basis using specific characteristics including issue age, policy form, benefit period, elimination period, underwriting status, and benefit options. We have not generated liabilities and reserves consistent with statutory reporting requirements as this self-funded plan is not subject to such requirements.

Detailed yearly cashflows and projected fund balances are provided in Appendix A.

Reconciliation to Prior Year Valuation Results

The Program's margin improved from negative 19.01% to negative 10.58% between June 30, 2023 and June 30, 2024. Factors that impacted the margin either positively or negatively during the fiscal year are the following:

The investment return during the fiscal year, lapse and active mortality assumption updates, and the approved rate increases had positive impact on the margin:

- The Program experienced an 8.9% investment return during the fiscal year 2023-24, which was higher than the 4.75% discount rate and improved the program's margin by 7.97%.
- This valuation reflects a 10% premium rate increase each year for two years starting in 2025 for non-partnership policies, and a 6.7% premium rate increase each year for three years starting in 2025 for partnership policies. These rate increases improved the margin by 21.01%.
- The lapse assumption was updated to reflect experience up to March 2021. The ultimate lapse rates were refined based on experience between July 2017 and March 2021. The lapse assumption update improved the margin by 0.49%.
- The active mortality assumption was updated to reflect experience from 2012 to 2023, excluding 2020 and 2021. The active mortality assumption update improved the margin by 0.50%.

A few assumption and modeling updates, and the population changes during the fiscal year, had negative impact on the margin:

- The morbidity assumption updates included components with positive and negative impact to the margin. The total impact overall decreased the margin by 3.26%. These updates included the following components:
    - The claim incidence assumption was updated to reflect experience from 2012 to 2023, excluding 2020 and 2021. It was refined to extend the increasing trend by policy duration into higher future durations. Additionally, the incidence rates at attained age 92 and higher were increased to reflect actual experience. The claim incidence assumption update decreased the margin by 4.61%.
    - The total claim termination and the claim recovery assumptions were updated reflecting the experience from 2012 to 2023, excluding 2020 and 2021. This update overall improved the margin by 1.43%
    - The claim utilization assumption was updated to include 2023 experience. The assumed near-term utilization level was increased to reflect the current higher cost-of-care inflation while the long-term future utilization projection was decreased. The utilization assumption update decreased the margin by 0.07%.
    - The Incurred-But-Not-Reported (IBNR) projection was updated with a small impact of negative 0.01% to the margin.
- The expense assumption was updated to reflect the updated third-party administrator fees. In addition, the long-term projection of the program's operating expenses was increased. The expense assumption update decreased the margin by 2.21%.
- The modeling structure for the valuation was updated to no longer split the claim projection into long duration claim or short duration claim categories. Due to an approximation method that converts the annual assumption rates into monthly rates, the projected future liability was increased, which decreased the margin by 1.50%
- The program's pending class action received final Court approval and was implemented in part during the 2023-24 fiscal year. The cost was estimated to be $120 million.
- Population changes in the program during the fiscal year reduced the margin further by 5.43%.

Reconciliation to Prior Year Valuation Results (continued)

This table below provides a detailed reconciliation of the factors that contributed to the change of margin.

	Change in Margin	Resulting Margin	Funded Status	Change in Valuation Margin ($ in Millions)	Resulting Valuation Margin ($ in Millions)
Result as of 6/30/23 valuation		**(19.01%)**	**90%**		**(521)**
Estimated Litigation Cost	(4.47%)	(23.48%)	86%	(120)	(641)
Roll-forward to 6/30/24	(3.69%)	(27.17%)	86%	(30)	(670)
FY23-24 Non-Investment Gain/Loss	(0.97%)	(28.14%)	86%	(22)	(692)
FY23-24 Investment Gain/Loss	7.97%	(20.18%)	89%	172	(520)
FY23-24 Population Change	(5.43%)	(25.61%)	89%	(26)	(546)
Model Update	(1.50%)	(27.11%)	88%	(31)	(577)
Expense Assumption Update	(2.21%)	(29.32%)	87%	(49)	(626)
Lapse Assumption Update	0.49%	(28.83%)	88%	11	(615)
Mortality Assumption Update	0.50%	(28.33%)	88%	11	(604)
Morbidity Assumption Updates	(3.26%)	(31.59%)	87%	(69)	(673)
Rate Increase	21.01%	(10.58%)	94%	409	(264)
Result as of 6/30/24 valuation		**(10.58%)**	**94%**		**(264)**

Summary of Key Assumptions

To calculate the future claim payments, premiums, and investment income, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Actual experience is measured against the assumptions, and the assumptions are then updated to reflect actual experience. This section provides general information on key assumptions used in the 2024 valuation.

Discount Rate

The discount rate assumption is a major assumption of the valuation. It is used to project asset growth and to determine the present values of future premiums, benefits, and expenses. This valuation uses a discount rate assumption of 4.75%.

The 4.75% discount rate assumption was initially adopted by the board in November 2020. It reflects the target asset allocation approved by the board in the March 2021 Investment Committee and the related Capital Market Assumptions as of September 30, 2020. In September 2024, the board approved a new target asset allocation. The current assumption has been reviewed for this valuation based on the updated target asset allocation and the Capital Market Assumptions in 2024.

Morbidity

Morbidity represents a substantial financial risk for Long-Term Care insurance products. The morbidity assumption reflects the expected claim payments for participants. The key components driving claim payments are:

- Claim incidence, which is the probability of a policy going on a new claim
- Claim termination, which is the probability that an existing claim will close in a given month
- Claim utilization, which is the amount of claim payment reimbursed relative to the maximum daily benefit

Assumptions were developed for claim incidences and claim terminations based on data as of June 30, 2024, filtered for years from 2012 to 2023, excluding 2020 and 2021. The claim utilization study was based on data in all years up to 2023. Milliman's industry benchmark Milliman LTC Guidelines were used as the expected basis for the claim incidence and claim termination assumptions, then adjusted to the Program's experience through credibility weighting. Additional credibility will be assigned to the Program's experience in the future as the experience continues to emerge. Actual claim cashflow during the fiscal year ending at the valuation date is summarized in the table "Comparison of Actual to Expected Cash Flows for 2023-24" in the "Assets" section on page 19.

Mortality

The mortality assumption summarizes the expected death rates of the population. Mortality reduces future liabilities without significantly affecting assets.

The First Principles Model tracks policyholder status and projects separately for active and disabled mortality. This method more accurately models the plan's overall mortality, particularly the extent to which the mix of active and disabled individuals may be different for a given attained age.

For active mortality, the 2012 Individual Annuity Mortality (IAM) table is used as the assumed general population mortality, and selection factors are developed based on CalPERS' actual experience. Expected mortality based on the 2012 IAM and CalPERS selection factors is then compared to the actual CalPERS mortality experience to determine more refined experience-based adjustment factors that vary by attained age. The combination of these adjustment factors along with the 2012 IAM table and CalPERS selection factors produces the CalPERS experienced-based mortality assumption.

Summary of Key Assumptions (continued)

The mortality improvement assumption reflects the expectation for mortality to gradually improve in the population due to health care technology and other factors. The development of this assumption can be very challenging and often relies on a very large population base to complete a credible study. Therefore, it is common in the LTC industry to rely on industry mortality improvement scales rather than independently calculate this assumption. This valuation uses 100% of the SOA mortality improvement Projection Scale G2.

Disabled mortality accounts for the majority of claim terminations. It is projected by using claim termination rate minus claim recovery rate instead of having its own direct assumption. The amount of claim recoveries is relatively small compared to disabled mortality. If a life recovers from a claim, it returns to the active status and has a probability to enter claim again in the future. This projection approach allows the disabled mortality and the recovery rates to vary by claim type and claim duration. The recovery rate assumption is developed based on CalPERS' claim data as of June 30, 2024, excluding data after December 31, 2023.

Lapse

The lapse assumption reflects the expected portion of participants who terminate their policies each year by not paying the renewal premiums. Lapse assumptions can differ based on a variety of factors, including the participant's age at enrollment and the number of years they have had their policy. In general, it is assumed that the longer a participant keeps their policy, the less likely they are to lapse. Lapse rate assumptions greatly affect long-term care insurance premiums because when individuals lapse, future liabilities are immediately reduced while current assets are mostly not affected. The First Principles Model uses an active life lapse assumption that only applies to active policyholders.

Expense

Expenses for the Program include fees charged by the third-party administrator (TPA) and CalPERS expenses related to internal staff working on the LTC Program and the investments. Expense assumptions were updated based on last year's actual expenses and the updated TPA contract at the valuation date. The administrative expenses are expressed either as per participant per month or flat expenses per month. Credit card premium payment expenses are reflected as a percent of premium paid.

Rate Increase and Policy Conversion

This valuation reflects a 10% premium rate increase each year for two years starting in 2025 for non-partnership policies, and a 6.7% premium rate increase each year for three years starting in 2025 for partnership policies. Shock lapse and anti-selection assumptions related to these rate increases were applied in the projection.

Options to convert to less expensive policies to offset the premium increases are offered to policyholders. The elected options will be implemented in fiscal year 2024-25 and subsequent years. The baseline projection in this valuation does not reflect any potential conversions.

Risk Analysis

Risk Analysis

The actuarial calculations supplied in this report are based on several assumptions about very long-term demographic and economic behavior. Unless these assumptions (such as morbidity, mortality, lapses, expenses, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between the assumptions and actual experience are called actuarial gains and losses which could either increase or decrease the funded status and margin of the LTC Program. If the actual experience differs from the assumptions over a prolonged period, it may result in a need for premium changes to ensure the financial integrity of the LTC Program. The next section displays the results of sensitivity testing performed around key actuarial assumptions.

Sensitivity Testing of Key Assumptions

Several scenarios were run to test the sensitivity of future cash flows to changes in assumptions with respect to claim incidence, claim termination, claim utilization, active mortality, claim recovery rate, lapses, and investment earnings. The tables below illustrate the impact of changes to the base assumptions on asset adequacy levels.

Results are highly sensitive to the assumptions underlying the calculations. While these tests show the outcomes of each of these scenarios, they do not indicate the likelihood of each scenario; as such, this testing does not include the probability that the projected values will be realized.

Detailed yearly cash flows and projected fund balances for the base case and each of the scenarios tested as part of the sensitivity testing are provided in Appendix A. The base case scenario is based on our current actuarial assumptions used for this valuation.

Discount Rate

The discount rate assumption used in this valuation is 4.75%. In the sensitivity analysis, we test the impact of future investment returns on the margin and funded ratio of the LTC Program by increasing and decreasing the discount rate by 0.5%. The table below shows the impact on the margin and funded status. As expected, a higher discount rate increases both margin and funded status while a lower discount rate decreases both measures.

Impact of Discount Rate on Margin and Funded Status

Scenario Description	Margin	Funded Status
Base Case	(10.58%)	94%
Discount Rate Increased by 0.5% to 5.25%	2.29%	101%
Discount Rate Decreased by 0.5% to 4.25%	(24.15%)	87%

Claim Incidence

Claim incidence is the probability of an active policyholder going on claim. This is a key morbidity assumption for long-term care modeling and is calculated using new claim counts and active exposure life years. The sensitivity analysis tests the impact of claim incidence on the margin and funded status of the LTC Program by increasing and decreasing future expected claim incidence by 10%. As shown in the table below, lower-than-expected incidence increases both the margin and funded status while higher-than-expected claim incidence decreases both measures.

Impact of Claim Incidence on Margin and Funded Status

Scenario Description	Margin	Funded Status
Base Case	(10.58%)	94%
Lower Claim Incidence (Future Claims Incidence Reduced by 10%)	1.84%	101%
Higher Claim Incidence (Future Claims Incidence Increased by 10%)	(22.47%)	89%

Sensitivity Testing of Key Assumptions (continued)

Claim Termination

Claim termination is the probability that an existing claim will cease in a given month. Claim termination occurs due to recovery or death of a member while on claim. For the sensitivity analysis, we test the impact that claim terminations have on the margin and funded status of the LTC Program by increasing and decreasing future expected claim terminations by 10%. As shown in the table below, higher-than-expected claim terminations increase both the margin and funded status, while lower-than-expected claim terminations decrease both measures.

Impact of Claim Termination on Margin and Funded Status

Scenario Description	Margin	Funded Status
Base Case	(10.58%)	94%
Higher Claim Termination (Future Claim Termination Increased by 10%)	10.34%	106%
Lower Claim Termination (Future Claim Termination Decreased by 10%)	(35.54%)	83%

Claim Utilization

The claim utilization assumption projects the average percentage of maximum benefit allowance being used each month while on-claim. This assumption incorporates a trend projecting the utilization rate to increase each calendar year. For the sensitivity analysis, we test the impact of the yearly increase trend being 0.5 times higher or lower compared to the baseline assumption. As shown in the table below, higher-than-expected claim utilization decreases both the margin and funded status, while lower-than-expected claim utilization increases both measures.

Impact of Claim Utilization on Margin and Funded Status

Scenario Description	Margin	Funded Status
Base Case	(10.58%)	94%
Lower Claim Utilization (Yearly Increase Trend Being 0.5 Times Lower)	3.81%	102%
Higher Claim Utilization (Yearly Increase Trend Being 0.5 Times Higher)	(24.20%)	88%

Active Mortality

The active mortality assumption reflects the expected death rate of the participants in the LTC Program. Active mortality reduces future liabilities without significantly affecting the assets on hand. Because of this, higher-than-expected active mortality will generally result in an increase in the margin and funded status. For the sensitivity analysis, we test the impact active mortality rates have on the margin and funded ratio of the LTC Program by increasing and decreasing the active mortality rates by 10%. As shown in the table below, mortality deterioration (i.e., higher rates) increases both the margin and funded status, while mortality improvement (i.e., lower rates) decreases both measures.

Impact of Active Mortality on Margin and Funded Status

Scenario Description	Margin	Funded Status
Base Case	(10.58%)	94%
Active Mortality Increased by 10%	(5.94%)	97%
Active Mortality Decreased by 10%	(15.39%)	92%

Sensitivity Testing of Key Assumptions (continued)

Claim Recovery Rate

The claim recovery assumption reflects the percentage of claims that would recover and return to active status. It is used to split claim terminations into recoveries and disabled mortality. If a claim is terminated due to recovery, the policy has a probability to enter claim again in the future, while a claim termination due to disabled mortality would have no further liability. Therefore, under a certain total claim termination rate, higher claim recovery rate decreases the margin while lower claim recovery rate increases the margin. We test the impact if the claim recovery rate is 25% higher or lower than expected, and the results are shown below:

Impact of Claim Recovery Rate on Margin and Funded Status

Scenario Description	Margin	Funded Status
Base Case	(10.58%)	94%
Claim Recovery Rate Being 25% Lower	(7.24%)	96%
Claim Recovery Rate Being 25% Higher	(14.01%)	92%

Lapses

The lapse assumption reflects the expected portion of active participants who terminate their policies each year by not paying the renewal premiums. For the sensitivity analysis, we test the impact lapses have on the margin and funded status of the LTC Program by increasing and decreasing the assumed lapse rates by a flat 0.25%. As shown in the table below, higher-than-expected lapse assumptions increase both the margin and funded status, while lower-than-expected lapses decrease both measures.

Impact of Lapses on Margin and Funded Status

Scenario Description	Margin	Funded Status
Base Case	(10.58%)	94%
Lapse Rates Increased by 0.25%	(5.74%)	97%
Lapse Rates Decreased by 0.25%	(15.47%)	92%

Best and Worst Case

To test the potential “best case” and “worst case” scenarios, the sensitivity of the seven key assumptions was tested simultaneously. The seven key assumptions include discount rate, claim incidence, claim termination, claim utilization, active mortality, claim recovery, and lapses. The table below shows the combined impact on the margin and the funded status when the experience is better for all seven key assumptions, and when the experience is worse for all seven key assumptions.

Combined Impact of Key Assumptions on Margin and Funded Status

Scenario Description	Margin	Funded Status
Base Case	(10.58%)	94%
Discount Rate Increases by 0.5% to 5.25% Lower Claim Incidence (Future Claim Incidence Reduced by 10%) Higher Claim Termination (Future Claim Termination Increased by 10%) Lower Claim Utilization (Yearly Increase Trend Being 0.5 times Lower) Active Mortality Rates Increased by 10% Claim Recovery Rate Being 25% Lower Lapses Increased by 0.25%	43.94%	133%
Discount Rate Decreases by 0.5% to 4.25% Higher Claim Incidence (Future Claim Incidence Increased by 10%) Lower Claim Termination (Future Claim Termination Decreased by 10%) Higher Claim Utilization (Yearly Increase Trend Being 0.5 times Higher) Active Mortality Rates Decreased by 10% Claim Recovery Rate Being 25% Higher Lapses Decreased by 0.25%	(80.45%)	68%

Sensitivity Testing of Key Assumptions (continued)

Reduced Benefit Option

Options to convert to less expensive policies are offered to policyholders to offset the upcoming premium increases. The baseline result of this valuation does not assume any conversions. It is estimated that the reduced benefit option (RBO) election rate would be around 10% of the population related to the 10% non-partnership premium increase and the 6.7% partnership premium increase in 2025. Based on these assumptions, the table below provides the result testing the impact of the RBOs in 2025. This result does not assume any anti-selection effect and does not account for RBOs related to rate increases in subsequent years.

Scenario Description	Margin	Funded Status	Valuation Liabilities ($ in Millions)
Base Case	(10.58%)	94%	$4,581.9
2025 RBOs with 10% Election Rate	(10.70%)	94%	$4,582.4

Additional Sensitivity Testing

In addition to the sensitivity testing summarized above, we used the future return scenarios that take ideas from New York 7 to test different investment scenarios compared to the base case scenario. In the private industry, most LTC insurance companies use the NY7 interest rate scenarios defined in New York Regulation 126 to test asset adequacy and form an opinion with respect to asset adequacy analysis. The additional discount rate sensitivity scenarios are described in the table below:

Scenarios for Additional Discount Rate Sensitivity

	Projection Years										
Scenarios	1	2	3	4	5	6	7	8	9	10	11+
Scenario #1	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%
Scenario #2	4.75%	5.25%	5.75%	6.25%	6.75%	7.25%	7.75%	8.25%	8.75%	9.25%	9.75%
Scenario #3	4.75%	5.75%	6.75%	7.75%	8.75%	9.75%	8.75%	7.75%	6.75%	5.75%	4.75%
Scenario #4	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%
Scenario #5	4.75%	4.25%	3.75%	3.25%	2.75%	2.25%	1.75%	1.25%	0.75%	0.25%	0.00%
Scenario #6	4.75%	3.75%	2.75%	1.75%	0.75%	0.00%	0.75%	1.75%	2.75%	3.75%	4.75%
Scenario #7	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%

The following table shows how varying the discount rate assumptions as described in the table above impacts the margin and funded status as of the valuation date.

Impact of Additional Discount Rate Sensitivity on Margin and Funded Status

Scenarios	Margin	Funded Status
Scenario #1	(10.58%)	94%
Scenario #2	59.92%	144%
Scenario #3	25.36%	115%
Scenario #4	61.02%	142%
Scenario #5	(134.65%)	52%
Scenario #6	(47.20%)	76%
Scenario #7	(103.86%)	58%

Detailed yearly cash flows and projected fund balances for these additional discount rate sensitivity scenarios are provided in Appendix B.

Assets

Reconciliation of the Market Value of Assets Over Prior Fiscal Year

	Market Value
Market Value of Assets as of June 30, 2023	**$4,798,402,368**
Expected Litigation Payments in 2023-24	(750,000,000)
Premiums Received in 2023-24	298,843,359
Benefit Payments in 2023-24	(361,096,856)
Expense Payments in 2023-24	(26,502,748)
Investment Returns in 2023-24	372,613,431
Overestimated Benefit Payments in 2023-24	(14,100,000)
Market Value of Assets as of June 30, 2024	**$4,318,159,555**

Comparison of Actual to Expected Cash Flows

Below is a table comparing the actual cash flows in 2023-24 to the cash flows that were projected as part of the June 30, 2023 valuation. The actual premium received during fiscal year 2023-24 reflected the population change during this timeframe. The program's assets were reduced by $750 million due to the lawsuit settlement population opt-out and cost, which was accompanied by an estimated offsetting liability release of $630 million. Previously estimated benefit payments were overfunded by about $14.1 million during the fiscal year. These amounts are expected to be refunded to the program during the 2024-25 fiscal year.

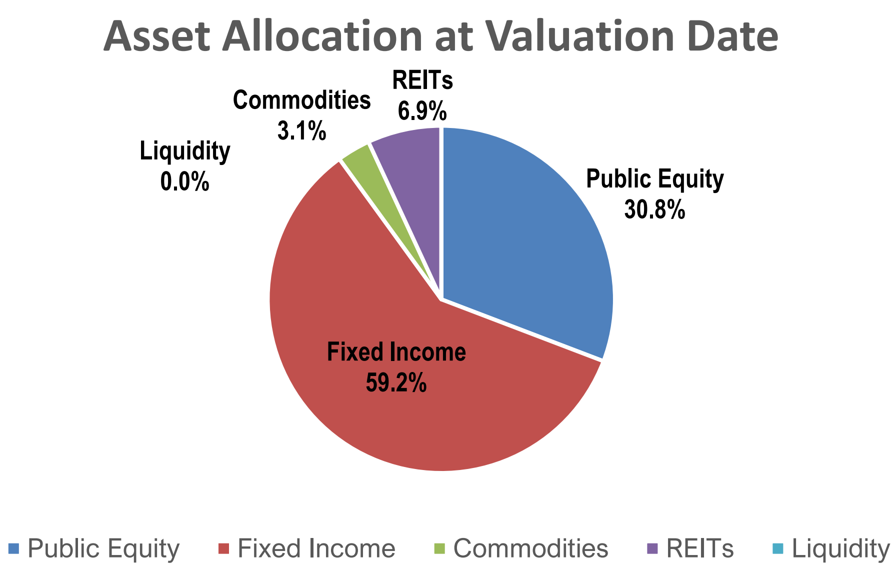
Comparison of Actual to Expected Cash Flows for 2023-2024

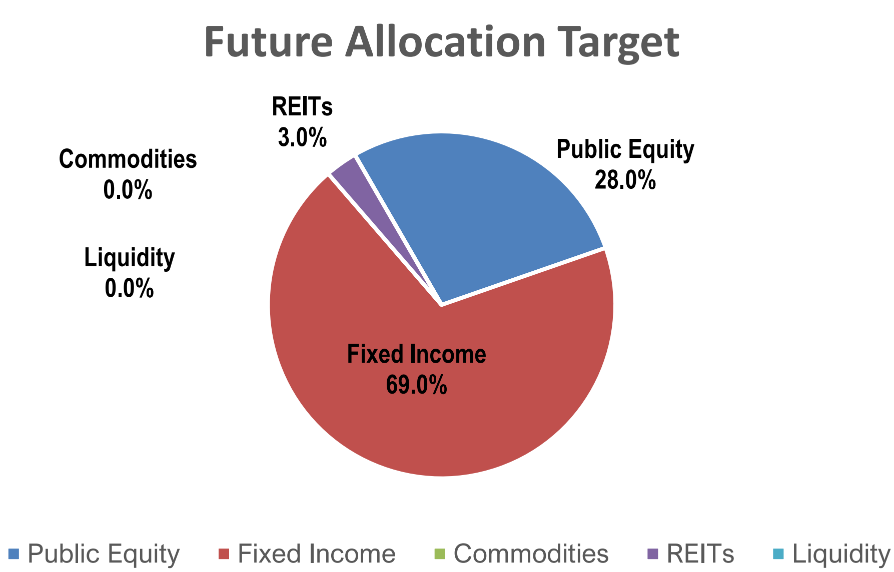
	Projected Results in the June 30, 2023 Valuation	Actual Results in the June 30, 2024 Valuation
Fund Balance as of June 30, 2023	$4,798,402,368	$4,798,402,368
Cash Flows for 2023-24		
Expected Litigation Payments in 2023-24		(750,000,000)
Premiums	341,976,536	298,843,359
Paid Claims	(364,684,708)	(361,096,856)
Expenses	(27,188,042)	(26,502,748)
Investment Income	226,953,477	372,613,431
Overestimated Benefit Payments		(14,100,000)
Balance as of June 30, 2024	**$4,975,459,631**	**$4,318,159,555**

Asset Allocation

CalPERS follows a strategic allocation policy that identifies the targeted percentage of funds to be invested in each asset class. A new strategic asset allocation target was adopted by the board in September 2024. The asset allocation as of June 30, 2024 and the future asset allocation target are shown below.

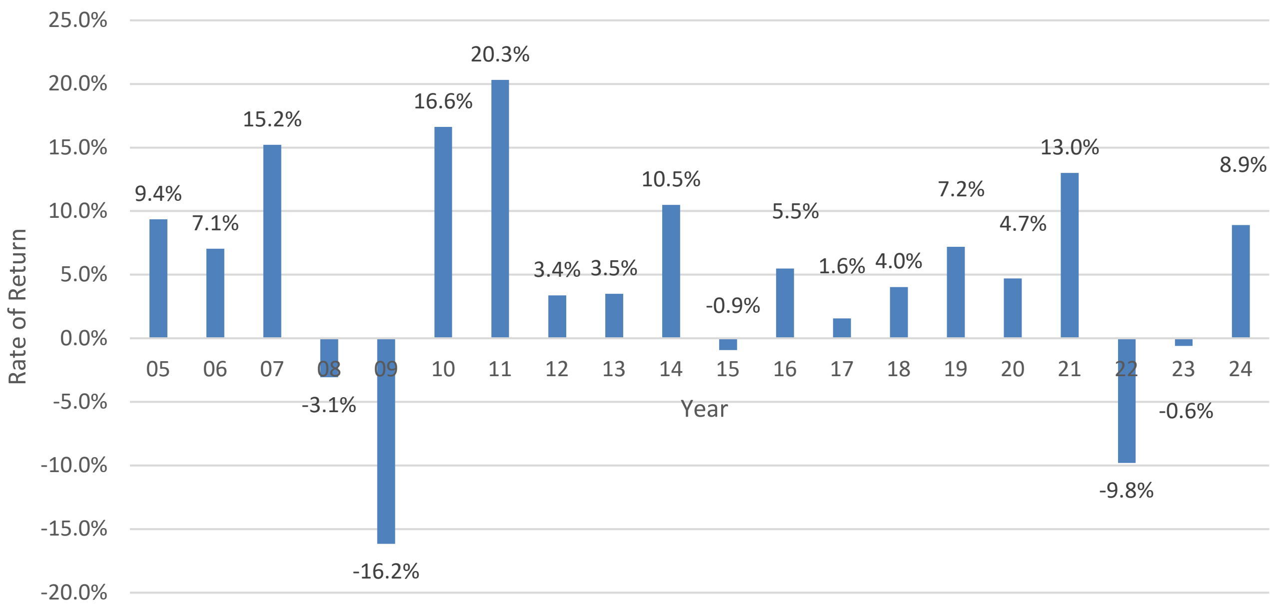
Asset Class	Allocation at Valuation Date	Asset Value at Valuation Date ($ in Millions)	Future Allocation Target
Public Equity	30.8%	$1,341.4	28.0%
Fixed Income	59.2%	$2,580.7	69.0%
Commodities	3.1%	$133.7	0.0%
Real Estate Investment Trusts (REITs)	6.9%	$298.6	3.0%
Liquidity	0.0%	$1.2	0.0%
Total LTC Fund:	**100.0%**	**$4,355.6**	**100.0%**





Historical Investment Return

The following table provides 20 years of historical investment returns for each fiscal year ending June 30. Prior to 2012, the program's portfolio allocated about 44% in equity. Starting from 2012, the targeted asset allocation switched to a more conservative mix with 15% in equity and 66% in fixed income. In 2023, the allocation in equity increased to around 30%.



Appendices

Appendix A – 60 Year Projection of Fund Balance for Scenarios Used in Sensitivity Testing of Key Assumptions

Base Case Scenario

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years based on the actuarial assumptions used in this valuation.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(10.58%)	($264)	94%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,066	$100,716	$4,362,674
2025	73,888	$288,161	$368,017	$25,675	$204,736	$4,461,879
2026	70,227	$297,266	$370,459	$25,213	$209,636	$4,573,110
2027	66,571	$278,153	$375,437	$25,327	$214,362	$4,664,860
2028	62,946	$259,032	$383,119	$25,406	$218,099	$4,733,467
2029	59,329	$240,218	$388,990	$25,575	$220,734	$4,779,854
2030	55,759	$221,873	$395,228	$25,683	$222,407	$4,803,223
2031	52,228	$204,063	$405,824	$25,734	$222,846	$4,798,574
2032	48,754	$186,842	$415,959	$25,739	$221,981	$4,765,699
2033	45,344	$170,256	$425,751	$25,689	$219,797	$4,704,311
2034	42,004	$154,372	$434,812	$24,929	$216,309	$4,615,252
2044	15,120	$42,909	$415,790	$14,433	$124,189	$2,544,611
2054	3,431	$7,494	$215,400	$5,267	$12,538	$170,634
2064	558	$974	$71,733	$2,570	($63,391)	($1,434,106)
2074	77	$110	$15,186	$1,814	($125,477)	($2,775,377)
2084	11	$7	$1,225	$819	($101,222)	($4,414,246)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$622,931	$1,746,244
Present Value as of June 30, 2024	$2,492,702	$6,726,123	$348,517	$2,561,542

Discount Rate Increased by 0.50% to 5.25%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the assumed discount rate and expected return were 5.25%, i.e., 0.50% higher.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
2.29%	$55	101%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,067	$111,184	$4,373,141
2025	73,888	$288,161	$368,017	$25,682	$226,839	$4,494,441
2026	70,227	$297,266	$370,459	$25,230	$233,414	$4,629,434
2027	66,571	$278,153	$375,437	$25,354	$239,885	$4,746,681
2028	62,946	$259,032	$383,119	$25,443	$245,355	$4,842,506
2029	59,329	$240,218	$388,990	$25,625	$249,696	$4,917,805
2030	55,759	$221,873	$395,228	$25,746	$253,063	$4,971,767
2031	52,228	$204,063	$405,824	$25,812	$255,154	$4,999,349
2032	48,754	$186,842	$415,959	$25,833	$255,891	$5,000,289
2033	45,344	$170,256	$425,751	$25,801	$255,253	$4,974,246
2034	42,004	$154,372	$434,812	$25,060	$253,253	$4,922,000
2044	15,120	$42,909	$415,790	$14,843	$173,791	$3,289,641
2054	3,431	$7,494	$215,400	$6,189	$79,728	$1,491,924
2064	558	$974	$71,733	$3,237	$37,774	$720,749
2074	77	$110	$15,186	$2,576	$34,527	$683,516
2084	11	$7	$1,225	$1,508	$25,158	$994,632

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$657,845	$7,190,036
Present Value as of June 30, 2024	$2,416,384	$6,341,122	$338,146	$3,463,878

Discount Rate Decreased by 0.50% to 4.25%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the assumed discount rate and expected return were 4.25%, i.e., 0.50% lower.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(24.15%)	($622)	87%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,066	$90,223	$4,352,182
2025	73,888	$288,161	$368,017	$25,667	$182,737	$4,429,396
2026	70,227	$297,266	$370,459	$25,197	$186,187	$4,517,195
2027	66,571	$278,153	$375,437	$25,301	$189,419	$4,584,029
2028	62,946	$259,032	$383,119	$25,369	$191,704	$4,626,277
2029	59,329	$240,218	$388,990	$25,526	$192,942	$4,644,920
2030	55,759	$221,873	$395,228	$25,621	$193,259	$4,639,203
2031	52,228	$204,063	$405,824	$25,658	$192,415	$4,604,199
2032	48,754	$186,842	$415,959	$25,648	$190,351	$4,539,785
2033	45,344	$170,256	$425,751	$25,582	$187,057	$4,445,764
2034	42,004	$154,372	$434,812	$24,804	$182,549	$4,323,069
2044	15,120	$42,909	$415,790	$14,065	$84,526	$1,879,621
2054	3,431	$7,494	$215,400	$5,067	($32,944)	($913,800)
2064	558	$974	$71,733	$2,570	($122,500)	($3,041,000)
2074	77	$110	$15,186	$1,814	($207,171)	($5,090,067)
2084	11	$7	$1,225	$819	($157,680)	($7,656,941)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$615,252	($1,504,130)
Present Value as of June 30, 2024	$2,573,688	$7,150,410	$363,075	$1,722,816

Claim Incidence Rates Increased by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future claim incidence were to be 10% higher than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(22.47%)	($548)	89%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,299	$140,885	$185,202	$13,066	$100,707	$4,361,484
2025	73,828	$287,147	$376,410	$25,668	$204,490	$4,451,043
2026	70,101	$295,177	$385,244	$25,191	$208,750	$4,544,535
2027	66,365	$275,240	$394,904	$25,280	$212,497	$4,612,087
2028	62,652	$255,440	$405,760	$25,327	$214,989	$4,651,428
2029	58,946	$236,080	$413,577	$25,459	$216,171	$4,664,644
2030	55,290	$217,313	$420,799	$25,524	$216,233	$4,651,866
2031	51,680	$199,192	$431,642	$25,530	$214,939	$4,608,826
2032	48,139	$181,760	$441,516	$25,488	$212,251	$4,535,833
2033	44,672	$165,055	$450,700	$25,390	$208,173	$4,432,971
2034	41,288	$149,135	$458,881	$24,563	$202,735	$4,301,396
2044	14,512	$40,025	$422,465	$13,581	$90,441	$1,796,159
2054	3,230	$6,817	$212,513	$4,809	($42,153)	($1,034,085)
2064	518	$873	$69,227	$2,438	($148,633)	($3,312,653)
2074	71	$98	$14,343	$1,731	($260,030)	($5,742,175)
2084	11	$6	$1,175	$784	($206,845)	($9,019,317)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,423,328	$13,698,740	$602,766	($2,459,298)
Present Value as of June 30, 2024	$2,437,192	$6,961,959	$341,064	$1,874,655

Claim Incidence Rates Reduced by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future claim incidence were to be 10% lower than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
1.84%	$47	101%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,321	$141,103	$183,057	$13,066	$100,724	$4,363,863
2025	73,947	$289,179	$359,584	$25,681	$204,982	$4,472,759
2026	70,355	$299,384	$355,488	$25,236	$210,529	$4,601,948
2027	66,781	$281,128	$355,566	$25,375	$216,249	$4,718,386
2028	63,246	$262,730	$359,811	$25,486	$221,262	$4,817,080
2029	59,721	$244,506	$363,460	$25,694	$225,397	$4,897,829
2030	56,241	$226,632	$368,437	$25,846	$228,745	$4,958,923
2031	52,793	$209,180	$378,516	$25,944	$230,998	$4,994,640
2032	49,392	$192,212	$388,660	$25,999	$232,057	$5,004,250
2033	46,043	$175,785	$398,827	$25,999	$231,887	$4,987,096
2034	42,752	$159,973	$408,553	$25,311	$230,485	$4,943,691
2044	15,783	$46,177	$406,555	$15,355	$160,701	$3,355,451
2054	3,657	$8,292	$217,529	$6,485	$72,669	$1,495,347
2064	603	$1,097	$74,224	$3,309	$30,245	$629,277
2074	83	$124	$16,093	$2,444	$22,086	$478,014
2084	13	$8	$1,283	$1,293	$14,422	$627,518

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,630,354	$13,002,467	$666,000	$6,347,471
Present Value as of June 30, 2024	$2,552,428	$6,463,933	$359,620	$3,308,598

Claim Termination Rates Increased by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future claim terminations were to be 10% higher than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
10.34%	$257	106%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,217	$140,994	$183,073	$13,060	$100,723	$4,363,743
2025	73,646	$288,148	$359,141	$25,635	$204,965	$4,472,080
2026	69,881	$297,222	$354,642	$25,148	$210,471	$4,599,982
2027	66,155	$278,074	$354,646	$25,246	$216,112	$4,714,276
2028	62,480	$258,920	$358,648	$25,315	$221,010	$4,810,243
2029	58,831	$240,076	$361,701	$25,481	$225,014	$4,888,151
2030	55,239	$221,706	$365,706	$25,588	$228,237	$4,946,800
2031	51,692	$203,876	$374,461	$25,643	$230,396	$4,980,967
2032	48,208	$186,638	$383,029	$25,655	$231,412	$4,990,333
2033	44,792	$170,041	$391,387	$25,615	$231,269	$4,974,641
2034	41,450	$154,150	$399,145	$24,859	$229,982	$4,934,768
2044	14,719	$42,758	$375,450	$14,680	$169,075	$3,554,522
2054	3,289	$7,450	$190,408	$6,476	$103,703	$2,192,866
2064	527	$966	$61,975	$4,235	$91,001	$1,974,627
2074	72	$109	$12,710	$4,731	$122,235	$2,687,038
2084	11	$7	$1,024	$3,595	$92,705	$4,039,593

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,517,897	$12,167,116	$707,144	$9,077,796
Present Value as of June 30, 2024	$2,490,386	$6,192,380	$358,784	$3,657,237

Claim Termination Rates Reduced by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future claim terminations were to be 10% lower than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(35.54%)	($887)	83%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,405	$140,994	$185,192	$13,073	$100,708	$4,361,597
2025	74,140	$288,174	$377,164	$25,716	$204,502	$4,451,394
2026	70,596	$297,312	$387,164	$25,282	$208,770	$4,545,030
2027	67,024	$278,235	$397,863	$25,415	$212,519	$4,612,506
2028	63,460	$259,151	$409,966	$25,506	$214,995	$4,651,180
2029	59,884	$240,369	$419,345	$25,682	$216,123	$4,662,646
2030	56,345	$222,053	$428,433	$25,791	$216,069	$4,646,544
2031	52,835	$204,267	$441,408	$25,839	$214,576	$4,598,139
2032	49,377	$187,063	$453,586	$25,838	$211,584	$4,517,363
2033	45,977	$170,491	$465,255	$25,778	$207,081	$4,403,901
2034	42,642	$154,616	$476,024	$25,015	$201,078	$4,258,557
2044	15,597	$43,080	$464,123	$14,162	$72,752	$1,386,219
2054	3,607	$7,545	$246,718	$5,312	($93,658)	($2,186,881)
2064	597	$983	$84,543	$2,699	($245,462)	($5,455,636)
2074	83	$111	$18,623	$1,886	($419,690)	($9,265,270)
2084	12	$7	$1,520	$847	($333,015)	($14,520,442)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,527,325	$14,833,104	$622,966	($6,909,856)
Present Value as of June 30, 2024	$2,495,264	$7,351,869	$348,358	$1,280,837

Claim Utilization Rate with Higher Yearly Increases

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future yearly increase trend of claim utilization rate were to be 0.5 times higher than projected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(24.20%)	($603)	88%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$185,031	$13,067	$100,706	$4,361,763
2025	73,886	$288,161	$371,069	$25,675	$204,627	$4,457,806
2026	70,222	$297,266	$375,126	$25,213	$209,339	$4,564,073
2027	66,566	$278,153	$381,794	$25,325	$213,790	$4,648,897
2028	62,941	$259,032	$391,316	$25,401	$217,156	$4,708,368
2029	59,321	$240,217	$399,035	$25,567	$219,313	$4,743,296
2030	55,747	$221,873	$407,142	$25,669	$220,398	$4,752,756
2031	52,212	$204,063	$419,557	$25,713	$220,133	$4,731,681
2032	48,735	$186,840	$431,580	$25,710	$218,443	$4,679,675
2033	45,321	$170,254	$443,309	$25,650	$215,306	$4,596,275
2034	41,978	$154,370	$454,290	$24,878	$210,727	$4,482,205
2044	15,080	$42,904	$449,334	$14,121	$99,176	$1,976,228
2054	3,415	$7,491	$237,311	$5,067	($44,849)	($1,105,719)
2064	555	$973	$78,222	$2,568	($163,241)	($3,639,223)
2074	76	$110	$15,897	$1,808	($286,076)	($6,317,350)
2084	11	$7	$1,261	$816	($227,533)	($9,921,334)

(3) Cash flows for 2024 and 2084 are for six months only.
(4) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,239	$14,227,727	$616,370	($2,917,635)
Present Value as of June 30, 2024	$2,492,660	$7,067,910	$346,189	$1,892,939

Claim Utilization Rate with Lower Yearly Increases

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future yearly increase trend of claim utilization rate were to be 0.5 times lower than projected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
3.81%	$95	102%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$183,195	$13,066	$100,725	$4,363,618
2025	73,890	$288,161	$364,951	$25,674	$204,847	$4,466,000
2026	70,229	$297,267	$365,744	$25,214	$209,937	$4,582,246
2027	66,575	$278,153	$368,961	$25,329	$214,942	$4,681,050
2028	62,953	$259,032	$374,834	$25,411	$219,056	$4,758,893
2029	59,339	$240,218	$378,829	$25,584	$222,174	$4,816,871
2030	55,772	$221,874	$383,101	$25,697	$224,443	$4,854,389
2031	52,242	$204,064	$391,757	$25,755	$225,599	$4,866,541
2032	48,773	$186,843	$399,882	$25,768	$225,579	$4,853,313
2033	45,368	$170,257	$407,730	$25,729	$224,375	$4,814,487
2034	42,031	$154,374	$414,770	$24,982	$222,005	$4,751,115
2044	15,161	$42,914	$381,456	$14,752	$149,795	$3,126,463
2054	3,452	$7,497	$189,599	$6,183	$71,716	$1,488,089
2064	563	$975	$60,717	$3,377	$41,352	$880,791
2074	77	$110	$12,609	$2,900	$44,372	$970,948
2084	12	$7	$1,047	$1,796	$32,231	$1,403,818

(5) Cash flows for 2024 and 2084 are for six months only.
(6) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,461	$12,416,943	$663,318	$6,643,459
Present Value as of June 30, 2024	$2,492,744	$6,360,813	$355,199	$3,258,719

Active Mortality Rates Increased by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the active mortality rates were to be 10% higher than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(5.94%)	($146)	97%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,239	$140,931	$184,239	$13,062	$100,714	$4,362,504
2025	73,685	$287,569	$368,040	$25,644	$204,715	$4,461,104
2026	69,902	$296,034	$369,979	$25,154	$209,583	$4,571,588
2027	66,137	$276,432	$374,229	$25,239	$214,278	$4,662,830
2028	62,415	$256,912	$381,022	$25,289	$218,003	$4,731,435
2029	58,716	$237,780	$385,907	$25,429	$220,654	$4,778,532
2030	55,077	$219,192	$391,102	$25,510	$222,380	$4,803,493
2031	51,489	$201,207	$400,624	$25,535	$222,915	$4,801,456
2032	47,972	$183,873	$409,676	$25,516	$222,198	$4,772,334
2033	44,531	$167,230	$418,388	$25,445	$220,217	$4,715,948
2034	41,172	$151,340	$426,376	$24,650	$216,992	$4,633,254
2044	14,551	$41,308	$400,612	$14,112	$131,343	$2,709,389
2054	3,256	$7,115	$205,315	$5,332	$31,398	$591,339
2064	524	$916	$67,876	$2,462	($29,350)	($681,478)
2074	72	$103	$14,252	$1,749	($69,972)	($1,550,852)
2084	11	$6	$1,146	$792	($57,442)	($2,505,381)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,465,756	$12,991,604	$614,545	$3,316,853
Present Value as of June 30, 2024	$2,460,766	$6,580,059	$344,968	$2,775,235

Active Mortality Rates Decreased by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the active mortality rates were to be 10% lower than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(15.39%)	($389)	92%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,381	$141,057	$184,018	$13,071	$100,717	$4,362,844
2025	74,091	$288,753	$367,993	$25,706	$204,757	$4,462,655
2026	70,554	$298,505	$370,940	$25,273	$209,690	$4,574,637
2027	67,010	$279,890	$376,656	$25,417	$214,446	$4,666,900
2028	63,485	$261,182	$385,243	$25,525	$218,196	$4,735,511
2029	59,954	$242,700	$392,125	$25,724	$220,815	$4,781,176
2030	56,458	$224,614	$399,442	$25,860	$222,434	$4,802,922
2031	52,986	$206,994	$411,152	$25,938	$222,773	$4,795,600
2032	49,560	$189,899	$422,419	$25,968	$221,757	$4,758,869
2033	46,184	$173,383	$433,348	$25,941	$219,365	$4,692,329
2034	42,867	$157,517	$443,541	$25,218	$215,605	$4,596,692
2044	15,731	$44,627	$431,895	$14,777	$116,711	$2,372,261
2054	3,624	$7,912	$226,322	$5,315	($7,369)	($273,631)
2064	595	$1,039	$75,963	$2,691	($99,514)	($2,232,835)
2074	82	$118	$16,221	$1,885	($184,431)	($4,076,012)
2084	12	$7	$1,315	$849	($147,731)	($6,442,055)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,581,718	$13,789,898	$632,869	$80,834
Present Value as of June 30, 2024	$2,525,928	$6,880,394	$352,482	$2,335,488

Claim Recovery Rate Being 25% Higher

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the claim recovery rates were to be 25% higher than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(14.01%)	($352)	92%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,334	$141,023	$184,131	$13,068	$100,716	$4,362,700
2025	73,962	$288,449	$368,104	$25,686	$204,741	$4,462,099
2026	70,350	$297,873	$370,791	$25,236	$209,653	$4,573,598
2027	66,739	$279,000	$376,147	$25,361	$214,388	$4,665,477
2028	63,154	$260,075	$384,305	$25,452	$218,125	$4,733,920
2029	59,574	$241,417	$390,723	$25,634	$220,743	$4,779,724
2030	56,037	$223,195	$397,558	$25,753	$222,377	$4,801,985
2031	52,533	$205,477	$408,786	$25,816	$222,750	$4,795,610
2032	49,083	$188,319	$419,580	$25,832	$221,789	$4,760,306
2033	45,691	$171,772	$430,053	$25,792	$219,475	$4,695,709
2034	42,366	$155,905	$439,812	$25,050	$215,818	$4,602,571
2044	15,417	$43,824	$426,561	$14,591	$119,339	$2,432,580
2054	3,535	$7,730	$223,909	$5,222	($985)	($131,705)
2064	580	$1,012	$75,466	$2,642	($88,560)	($1,991,022)
2074	80	$114	$16,194	$1,856	($166,874)	($3,688,802)
2084	12	$7	$1,304	$836	($133,919)	($5,839,846)

(3) Cash flows for 2024 and 2084 are for six months only.
(4) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,552,489	$13,669,872	$627,535	$586,912
Present Value as of June 30, 2024	$2,509,311	$6,828,891	$350,244	$2,405,719

Claim Recovery Rate Being 25% Lower

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the claim recovery rates were to be 25% lower than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(7.24%)	($179)	96%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,286	$140,965	$184,126	$13,065	$100,716	$4,362,649
2025	73,813	$287,873	$367,929	$25,664	$204,731	$4,461,660
2026	70,105	$296,662	$370,127	$25,191	$209,620	$4,572,624
2027	66,405	$277,310	$374,730	$25,293	$214,336	$4,664,245
2028	62,739	$257,996	$381,939	$25,360	$218,073	$4,733,016
2029	59,086	$239,028	$387,270	$25,517	$220,725	$4,779,982
2030	55,484	$220,564	$392,921	$25,613	$222,437	$4,804,449
2031	51,926	$202,667	$402,895	$25,653	$222,940	$4,801,508
2032	48,430	$185,384	$412,385	$25,647	$222,170	$4,771,030
2033	45,001	$168,762	$421,514	$25,587	$220,115	$4,712,806
2034	41,648	$152,865	$429,897	$24,811	$216,793	$4,627,758
2044	14,833	$42,025	$405,397	$14,279	$128,920	$2,653,826
2054	3,331	$7,269	$207,337	$5,336	$25,620	$462,995
2064	537	$939	$68,247	$2,502	($39,163)	($898,080)
2074	74	$106	$14,258	$1,773	($85,674)	($1,897,154)
2084	11	$6	$1,155	$802	($69,792)	($3,043,867)

(3) Cash flows for 2024 and 2084 are for six months only.
(4) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,492,926	$13,098,725	$618,886	$2,862,658
Present Value as of June 30, 2024	$2,476,416	$6,626,946	$346,927	$2,711,922

Lapses Increased by 0.25%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the lapse rates were to be 0.25% higher than expected for each of the next 60 years.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(5.74%)	($141)	97%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,218	$140,873	$184,123	$13,061	$100,715	$4,362,563
2025	73,629	$287,381	$367,888	$25,635	$204,718	$4,461,139
2026	69,816	$295,721	$370,003	$25,138	$209,578	$4,571,298
2027	66,024	$276,015	$374,472	$25,216	$214,251	$4,661,876
2028	62,278	$256,400	$381,488	$25,258	$217,937	$4,729,467
2029	58,558	$237,184	$386,569	$25,392	$220,533	$4,775,223
2030	54,902	$218,525	$391,915	$25,465	$222,190	$4,798,558
2031	51,301	$200,483	$401,535	$25,483	$222,644	$4,794,667
2032	47,773	$183,105	$410,627	$25,457	$221,837	$4,763,525
2033	44,324	$166,435	$419,321	$25,379	$219,760	$4,705,019
2034	40,960	$150,532	$427,240	$24,574	$216,435	$4,620,172
2044	14,396	$40,811	$399,033	$13,988	$130,161	$2,683,948
2054	3,189	$6,951	$201,980	$5,240	$30,948	$583,062
2064	506	$881	$65,738	$2,411	($28,344)	($658,216)
2074	68	$97	$13,610	$1,717	($67,544)	($1,496,980)
2084	10	$6	$1,071	$780	($55,428)	($2,417,549)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,449,194	$12,922,482	$610,602	$3,348,180
Present Value as of June 30, 2024	$2,451,875	$6,567,140	$343,581	$2,771,267

Lapses Decreased by 0.25%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the lapse rates were to be 0.25% lower than expected for each of the next 60 years.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(15.47%)	($392)	92%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,402	$141,115	$184,134	$13,072	$100,717	$4,362,785
2025	74,147	$288,941	$368,145	$25,714	$204,754	$4,462,619
2026	70,640	$298,816	$370,915	$25,288	$209,694	$4,574,926
2027	67,122	$280,301	$376,405	$25,439	$214,473	$4,667,855
2028	63,619	$261,684	$384,757	$25,554	$218,262	$4,737,490
2029	60,108	$243,282	$391,428	$25,760	$220,937	$4,784,520
2030	56,628	$225,264	$398,572	$25,904	$222,627	$4,807,935
2031	53,170	$207,698	$410,160	$25,989	$223,049	$4,802,534
2032	49,753	$190,644	$421,361	$26,026	$222,127	$4,767,919
2033	46,385	$174,153	$432,280	$26,005	$219,837	$4,703,623
2034	43,072	$158,300	$442,517	$25,292	$216,183	$4,610,296
2044	15,879	$45,109	$433,235	$14,897	$118,051	$2,401,292
2054	3,690	$8,077	$229,698	$5,191	($6,582)	($257,838)
2064	614	$1,076	$78,268	$2,535	($99,936)	($2,243,187)
2074	86	$125	$16,942	$1,710	($185,885)	($4,108,331)
2084	13	$8	$1,402	$756	($148,932)	($6,494,440)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,597,911	$13,858,095	$630,203	$77,787
Present Value as of June 30, 2024	$2,534,599	$6,891,857	$352,920	$2,343,415

"Best Case" Scenario

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the experience were to be better than expected for the key assumptions. Specifically, this scenario includes higher discount rate, higher claim termination rates, higher active mortality, higher lapse rates, lower claim incidence rates, lower yearly increase for claim utilization rates, and lower claim recovery rates.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
43.94%	$1,081	133%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,043	$140,890	$181,197	$13,048	$100,739	$4,365,543
2025	73,183	$287,516	$347,884	$25,560	$205,269	$4,484,883
2026	69,176	$295,978	$334,890	$25,019	$211,490	$4,632,442
2027	65,254	$276,373	$327,565	$25,068	$218,232	$4,774,414
2028	61,426	$256,851	$325,313	$25,099	$224,588	$4,905,441
2029	57,658	$237,717	$322,984	$25,231	$230,381	$5,025,323
2030	53,975	$219,128	$322,260	$25,315	$235,707	$5,132,583
2031	50,365	$201,143	$326,860	$25,353	$240,271	$5,221,784
2032	46,840	$183,813	$331,595	$25,356	$243,990	$5,292,636
2033	43,402	$167,179	$336,435	$25,315	$246,850	$5,344,914
2034	40,056	$151,300	$340,832	$24,544	$248,872	$5,379,711
2044	13,868	$41,287	$303,799	$14,896	$238,232	$5,114,767
2054	3,023	$7,046	$145,607	$8,562	$248,521	$5,407,521
2064	473	$893	$44,787	$9,051	$337,719	$7,421,401
2074	63	$98	$8,847	$14,433	$516,400	$11,376,366
2084	9	$6	$703	$12,917	$399,243	$17,399,949

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,463,894	$10,110,292	$955,580	$20,683,768
Present Value as of June 30, 2024	$2,459,962	$5,312,363	$384,741	$5,372,492

"Worst Case" Scenario

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the experience were to be worse than expected for the key assumptions. Specifically, this scenario includes lower discount rate, lower claim termination rates, lower active mortality, lower lapse rates, higher claim incidence rates, higher yearly increase for claim utilization rates, and higher claim recovery rates.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(80.45%)	($2,036)	68%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,583	$141,098	$187,091	$13,084	$100,693	$4,359,775
2025	74,629	$288,830	$389,253	$25,794	$204,183	$4,437,741
2026	71,352	$298,639	$409,154	$25,420	$207,666	$4,509,471
2027	68,007	$280,083	$428,878	$25,609	$210,169	$4,545,237
2028	64,630	$261,431	$449,190	$25,745	$210,952	$4,542,685
2029	61,201	$243,001	$465,899	$25,960	$209,953	$4,503,779
2030	57,773	$224,960	$481,587	$26,099	$207,354	$4,428,407
2031	54,347	$207,376	$500,483	$26,167	$202,908	$4,312,041
2032	50,949	$190,305	$518,240	$26,177	$196,559	$4,154,488
2033	47,588	$173,801	$535,269	$26,120	$188,284	$3,955,183
2034	44,271	$157,938	$551,155	$25,376	$178,082	$3,714,673
2044	16,659	$44,898	$566,143	$14,050	($16,965)	($642,690)
2054	3,964	$8,055	$312,380	$5,587	($288,540)	($6,517,141)
2064	676	$1,078	$108,235	$2,732	($582,107)	($12,891,199)
2074	96	$125	$23,455	$1,809	($962,792)	($21,244,421)
2084	15	$8	$1,956	$792	($760,566)	($33,161,630)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,591,146	$17,664,748	$631,429	($22,774,758)
Present Value as of June 30, 2024	$2,530,667	$8,532,183	$352,635	($1,026,606)

Appendix B – 60 Year Projection of Fund Balance for Additional Discount Rate Sensitivity Testing

Scenario 1 – Base Case

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years based on the actuarial assumptions used in this valuation. This is the base scenario including a discount rate and expected return assumption of 4.75%.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(10.58%)	($264)	94%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,066	$100,716	$4,362,674
2025	73,888	$288,161	$368,017	$25,675	$204,736	$4,461,879
2026	70,227	$297,266	$370,459	$25,213	$209,636	$4,573,110
2027	66,571	$278,153	$375,437	$25,327	$214,362	$4,664,860
2028	62,946	$259,032	$383,119	$25,406	$218,099	$4,733,467
2029	59,329	$240,218	$388,990	$25,575	$220,734	$4,779,854
2030	55,759	$221,873	$395,228	$25,683	$222,407	$4,803,223
2031	52,228	$204,063	$405,824	$25,734	$222,846	$4,798,574
2032	48,754	$186,842	$415,959	$25,739	$221,981	$4,765,699
2033	45,344	$170,256	$425,751	$25,689	$219,797	$4,704,311
2034	42,004	$154,372	$434,812	$24,929	$216,309	$4,615,252
2044	15,120	$42,909	$415,790	$14,433	$124,189	$2,544,611
2054	3,431	$7,494	$215,400	$5,267	$12,538	$170,634
2064	558	$974	$71,733	$2,570	($63,391)	($1,434,106)
2074	77	$110	$15,186	$1,814	($125,477)	($2,775,377)
2084	11	$7	$1,225	$819	($101,222)	($4,414,246)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$622,931	$1,746,244
Present Value as of June 30, 2024	$2,492,702	$6,726,123	$348,517	$2,561,542

Scenario 2 - Discount Rate Increasing by 0.50% for 10 Years

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 2 of the additional discount rate sensitivity scenarios.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
59.92%	$1,323	144%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,066	$100,716	$4,362,674
2025	73,888	$288,161	$368,017	$25,675	$215,436	$4,472,579
2026	70,227	$297,266	$370,459	$25,213	$243,256	$4,617,429
2027	66,571	$278,153	$375,437	$25,327	$273,351	$4,768,169
2028	62,946	$259,032	$383,119	$25,406	$305,076	$4,923,752
2029	59,329	$240,218	$388,990	$25,575	$338,514	$5,087,919
2030	55,759	$221,873	$395,228	$25,683	$374,172	$5,263,053
2031	52,228	$204,063	$405,824	$25,734	$412,000	$5,447,558
2032	48,754	$186,842	$415,959	$25,739	$452,287	$5,644,989
2033	45,344	$170,256	$425,751	$25,689	$495,493	$5,859,298
2034	42,004	$154,372	$434,812	$24,929	$542,250	$6,096,179
2044	15,120	$42,909	$415,790	$14,433	$842,096	$9,283,399
2054	3,431	$7,494	$215,400	$5,267	$1,643,647	$18,394,874
2064	558	$974	$71,733	$2,570	$3,942,347	$44,340,223
2074	77	$110	$15,186	$1,814	$9,927,978	$111,745,052
2084	11	$7	$1,225	$819	$12,285,948	$270,304,503

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$622,931	$276,464,993
Present Value as of June 30, 2024	$2,208,211	$4,926,346	$276,868	$9,786,353

Scenario 3 - Discount Rate Increasing 1% for Five Years then Decreasing 1% for Five Years

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 3 of the additional discount rate sensitivity scenarios.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
25.36%	$566	115%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,066	$100,716	$4,362,674
2025	73,888	$288,161	$368,017	$25,675	$226,110	$4,483,253
2026	70,227	$297,266	$370,459	$25,213	$277,009	$4,661,857
2027	66,571	$278,153	$375,437	$25,327	$333,434	$4,872,679
2028	62,946	$259,032	$383,119	$25,406	$395,748	$5,118,935
2029	59,329	$240,218	$388,990	$25,575	$465,296	$5,409,883
2030	55,759	$221,873	$395,228	$25,683	$491,627	$5,702,472
2031	52,228	$204,063	$405,824	$25,734	$461,495	$5,936,472
2032	48,754	$186,842	$415,959	$25,739	$421,585	$6,103,201
2033	45,344	$170,256	$425,751	$25,689	$373,091	$6,195,108
2034	42,004	$154,372	$434,812	$24,929	$317,651	$6,207,390
2044	15,120	$42,909	$415,790	$14,433	$239,021	$5,076,946
2054	3,431	$7,494	$215,400	$5,267	$195,180	$4,198,375
2064	558	$974	$71,733	$2,570	$227,106	$4,972,114
2074	77	$110	$15,186	$1,814	$336,565	$7,413,870
2084	11	$7	$1,225	$819	$261,960	$11,420,294

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$622,931	$17,580,783
Present Value as of June 30, 2024	$2,232,751	$5,684,333	$300,342	$5,062,308

Scenario 4 – Discount Rate Increased 3%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 4 of the additional discount rate sensitivity scenarios.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
61.02%	$1,277	142%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,066	$163,155	$4,425,113
2025	73,888	$288,161	$368,017	$25,675	$338,901	$4,658,483
2026	70,227	$297,266	$370,459	$25,213	$357,293	$4,917,371
2027	66,571	$278,153	$375,437	$25,327	$376,450	$5,171,209
2028	62,946	$259,032	$383,119	$25,406	$395,115	$5,416,832
2029	59,329	$240,218	$388,990	$25,575	$413,138	$5,655,622
2030	55,759	$221,873	$395,228	$25,683	$430,783	$5,887,367
2031	52,228	$204,063	$405,824	$25,734	$447,653	$6,107,525
2032	48,754	$186,842	$415,959	$25,739	$463,669	$6,316,338
2033	45,344	$170,256	$425,751	$25,689	$478,842	$6,513,995
2034	42,004	$154,372	$434,812	$24,929	$493,231	$6,701,857
2044	15,120	$42,909	$415,790	$14,433	$629,773	$8,560,889
2054	3,431	$7,494	$215,400	$5,267	$976,339	$13,467,901
2064	558	$974	$71,733	$2,570	$1,899,354	$26,370,811
2074	77	$110	$15,186	$1,814	$3,958,851	$55,032,479
2084	11	$7	$1,225	$819	$4,092,619	$111,715,716

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$622,931	$117,876,206
Present Value as of June 30, 2024	$2,093,186	$4,866,114	$267,867	$8,704,661

Scenario 5 – Discount Rate Decreasing 0.50% for 10 Years

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 5 of the additional discount rate sensitivity scenarios. Interest rates in future years are floored at 0%.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(134.65%)	($3,963)	52%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,066	$100,716	$4,362,674
2025	73,888	$288,161	$368,017	$25,675	$194,011	$4,451,154
2026	70,227	$297,266	$370,459	$25,213	$176,151	$4,528,900
2027	66,571	$278,153	$375,437	$25,327	$156,461	$4,562,749
2028	62,946	$259,032	$383,119	$25,406	$134,755	$4,548,012
2029	59,329	$240,218	$388,990	$25,575	$111,626	$4,485,290
2030	55,759	$221,873	$395,228	$25,683	$87,855	$4,374,107
2031	52,228	$204,063	$405,824	$25,734	$64,054	$4,210,667
2032	48,754	$186,842	$415,959	$25,739	$40,991	$3,996,802
2033	45,344	$170,256	$425,751	$25,689	$19,450	$3,735,068
2034	42,004	$154,372	$434,812	$24,929	$4,572	$3,434,270
2044	15,120	$42,909	$415,790	$14,433	$0	($361,686)
2054	3,431	$7,494	$215,400	$5,267	$0	($3,337,292)
2064	558	$974	$71,733	$2,570	$0	($4,625,070)
2074	77	$110	$15,186	$1,814	$0	($4,993,249)
2084	11	$7	$1,225	$819	$0	($5,069,848)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$622,931	$1,090,642
Present Value as of June 30, 2024	$2,943,213	$10,719,802	$504,729	$965,868

Scenario 6 – Discount Rate Decreasing 1% for Five Years then Increasing 1% for Five Years

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 6 of the additional discount rate sensitivity scenarios. Interest rates in future years are floored at 0%.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(47.20%)	($1,329)	76%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,066	$100,716	$4,362,674
2025	73,888	$288,161	$368,017	$25,675	$183,260	$4,440,403
2026	70,227	$297,266	$370,459	$25,213	$142,801	$4,484,799
2027	66,571	$278,153	$375,437	$25,327	$99,644	$4,461,831
2028	62,946	$259,032	$383,119	$25,406	$54,982	$4,367,321
2029	59,329	$240,218	$388,990	$25,575	$16,184	$4,209,158
2030	55,759	$221,873	$395,228	$25,683	$15,201	$4,025,320
2031	52,228	$204,063	$405,824	$25,734	$48,581	$3,846,407
2032	48,754	$186,842	$415,959	$25,739	$83,353	$3,674,905
2033	45,344	$170,256	$425,751	$25,689	$114,538	$3,508,258
2034	42,004	$154,372	$434,812	$24,929	$142,289	$3,345,177
2044	15,120	$42,909	$415,790	$14,433	$32,586	$524,527
2054	3,431	$7,494	$215,400	$5,267	($133,158)	($3,042,358)
2064	558	$974	$71,733	$2,570	($295,125)	($6,544,449)
2074	77	$110	$15,186	$1,814	($494,055)	($10,903,502)
2084	11	$7	$1,225	$819	($390,938)	($17,045,709)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$622,931	($10,885,219)
Present Value as of June 30, 2024	$2,816,092	$8,054,086	$409,495	($399,663)

Scenario 7 – Discount Rate Decreased 3%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 7 of the additional discount rate sensitivity scenarios.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(103.86%)	($3,183)	58%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,318,160
2024	78,310	$140,994	$184,129	$13,066	$37,378	$4,299,336
2025	73,888	$288,161	$368,017	$25,675	$74,316	$4,268,122
2026	70,227	$297,266	$370,459	$25,213	$73,840	$4,243,556
2027	66,571	$278,153	$375,437	$25,327	$73,203	$4,194,147
2028	62,946	$259,032	$383,119	$25,406	$72,109	$4,116,764
2029	59,329	$240,218	$388,990	$25,575	$70,524	$4,012,939
2030	55,759	$221,873	$395,228	$25,683	$68,510	$3,882,411
2031	52,228	$204,063	$405,824	$25,734	$65,977	$3,720,894
2032	48,754	$186,842	$415,959	$25,739	$62,912	$3,528,950
2033	45,344	$170,256	$425,751	$25,689	$59,323	$3,307,089
2034	42,004	$154,372	$434,812	$24,929	$55,229	$3,056,948
2044	15,120	$42,909	$415,790	$14,433	($5,248)	($498,289)
2054	3,431	$7,494	$215,400	$5,267	($64,766)	($3,871,052)
2064	558	$974	$71,733	$2,570	($103,127)	($6,032,059)
2074	77	$110	$15,186	$1,814	($130,315)	($7,585,127)
2084	11	$7	$1,225	$819	($77,973)	($9,029,021)

(1) Cash flows for 2024 and 2084 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2024) and the last projected fund balance (as of June 30, 2084).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$3,522,347	$13,378,066	$622,931	($2,868,531)
Present Value as of June 30, 2024	$3,064,575	$10,078,350	$487,379	($933,120)

Appendix C – Long-Term Care Model and Assumptions

Model

Projection results are based on the 80,153 in-force participants as of June 30, 2024. CalPERS LTC business consists of facility-only and comprehensive coverage options and includes a variety of elimination periods, benefit periods, and inflation coverage combinations. A summary of policy benefits has been included in Appendix D. The projection results reflect output from the First Principles Model based on the policy benefits in the program.

The first principles modeling approach is the industry standard for modeling long-term care insurance. This approach includes more detailed modeling of claim incidence, claim termination, and utilization. The First Principles Model tracks policyholder status: policyholders are classified as “active”, “disabled”, or “terminated” (due to lapsation, death, or benefit expiration). In addition to tracking policyholder status, the First Principles Model projects a policyholder’s claim status as they continue to remain on claim, terminate, or recover back into the healthy population, while accounting for the policy’s remaining benefits. This detailed tracking of lives status allows first principles models to more accurately project when benefits will be exhausted and to more accurately reflect the claim payment patterns based on the claim termination assumption and the utilization assumption.

Important statistics such as the number of new and open claims, the amount of claim terminations (often distinguished between death, recovery, and exhaustion), and the split of the population between disabled and healthy lives can be easily tracked using the information available in the First Principles Model. These statistics offer increased transparency on what is driving deviations in experience, e.g., higher/lower-than-assumed claim incidence or longer/shorter-than-expected claim persistence. The ability to directly compare these figures against emerging experience is beneficial. Used together with sensitivity testing, the additional information accessible in the First Principles Model allows for better insight into the CalPERS Program and the impacts of different assumption changes on its projected development.

Assumptions

Morbidity

There are three separate morbidity assumptions. The first assumption is the claim incidence rate, which determines the probability that an individual will go on claim at a given time. The second assumption is the claim termination rate, which is the probability that an individual will terminate their claim from one month to the next. Total claim terminations (excluding benefit exhaustions) can be split into disabled death and recovery using the claim recovery assumption. The third assumption is the claim utilization rate, which determines what percentage of the maximum benefit allowance a policyholder will use while on claim.

Claim Incidence Rates

The claim incidence rates are developed using the 2020 Milliman LTC Guidelines as the baseline assumption, which is then adjusted to CalPERS experience level by applying adjustment factors. Credibility weighting is applied to the adjustment factors when there is not sufficient internal data volume.

The claim incidence rates capture the following experience variations:

- Gender: Male or Female
- Attained Age at Claim
- Initial Site of Care: Home Health Care, Assisted Living Facility, or Nursing Home
- Policy Type: Comprehensive / Facility-only / Partnership, and Inflation / Non-Inflation
- Marital Status: Married or Single
- Benefit Period
- Underwriting Type and Policy Duration

The incidence study for the June 30, 2024 valuation uses claim and exposure information as of June 30, 2024, filtered for years 2012 to 2023 and policy duration 10+, excluding 2020 and 2021. The experience study uses the following steps to calculate the incidence rates:

- Step 1: Calculate active life exposure.
  - In years when an individual does go on claim, a full year of exposure is credited to the individual for that year.
- Step 2: Summarize actual claim counts.
  - The claim counts are grouped based on the different categories mentioned previously.
- Step 3: Calculate the expected historical incidences using the active life exposure and Milliman Guidelines rates. Certain Milliman Guidelines rates were approximated to accommodate CalPERS' projection model structure.
- Step 4: Develop adjustment factors based on historical actual-to-expected ratios for the experience variables below. CalPERS experience receives full credibility in areas with 271 or more claims. Otherwise, CalPERS experience receives partial or zero credibility.
  - Attained age at claim
  - Marital status
  - Policy type
  - Gender
  - Benefit period
  - Policy inflation type

Assumptions (continued)

Claim Termination Rates

The claim termination rates are developed using the Milliman LTC Guidelines as the baseline assumption, which is then adjusted to CalPERS experience level by applying adjustment factors. Credibility weighting is applied to the adjustment factors when there is not sufficient internal data volume.

The claim termination rates capture the following experience variations:

- Gender: Male or Female
- Claim Incurred Age Groups: 0-64, 65-74, 75-84, 85-89, or 90+
- Claim Initial Site of Care: Home Health Care, Assisted Living Facility, or Nursing Home
- Number of Months on Claim (Claim duration)
- Benefit Period: Lifetime vs Non-Lifetime
- Policy Type: Comprehensive, Facility-Only, or Partnership
- Marital Status: Married or Single

The claim termination study for the June 30, 2024 valuation uses claim and exposure information as of June 30, 2024, filtered for years 2012 to 2023, excluding 2020 and 2021. The claim termination study uses the following steps to calculate the claim termination rates:

- Step 1: Calculate and aggregate on-claim exposure.
- Step 2: Summarize actual claim termination counts.
  - Claim terminations due to benefit-exhaustion are excluded.
- Step 3: Calculate the expected historical claim terminations using the disabled exposure and Milliman Guidelines rates.
  - Milliman Guidelines rates were converted to force of decrement when calculating the expected values.
- Step 4: Develop adjustment factors based on historical actual-to-expected ratios for the experience variables below. CalPERS experience receives full credibility in areas with 271 or more claims. Otherwise, CalPERS experience receives partial or zero credibility.
  - Claim duration and site of care
  - Marital status
  - Policy type
  - Benefit period and site of care
  - Gender
  - Incurred age group and site of care
  - Incurred age group and claim duration
  - Additional subgroup factors for smaller age bands were calculated for age group 90+

Assumptions (continued)

Claim Recovery Rates

The claim recovery assumption is used to split claim terminations into recoveries and disabled mortality. If a life recovers from a claim, it returns to the active status and has a probability to enter claim again in the future. Disabled mortality is projected by using the total claim termination minus the claim recovery. The baseline claim recovery rates are developed using CalPERS' total claim data as of June 30, 2024, excluding data after December 31, 2023. The claim recovery adjustment factors are developed based on actual-to-expected ratios during 2012 to 2023, excluding 2020 and 2021. The study includes the following steps:

- Step 1: Summarize historical claim exposure by claim duration and claim site of care.
- Step 2: Summarize historical claim recoveries by claim duration and claim site of care.
- Step 3: Calculate recovery rates by using claim recoveries divided by claim exposure.
- Step 4: Apply adjustment factors by claim durations.

Claim Utilization Rates

The baseline claim utilization rates are developed using CalPERS' total claim data as of June 30, 2024, excluding data after December 31, 2023. The adjustment factors for the claim utilization assumption are developed based on experience during years 2014 to 2023. The assumption structure captures utilization rate variations by claims' initial site of care, MDB range, product series, benefit period, and yearly increase trend.

The claim utilization assumption is developed by the following steps:

- Step 1: Summarize the total benefit paid for each claim category.
- Step 2: Summarize total historical benefit allowance for each claim category.
- Step 3: Calculate benefit period adjustment factors using the relative ratios between the various benefit period groups.
- Step 4: Calculate product series adjustment factors for LTC2 to LTC4 as ratios to LTC1 utilizations.
- Step 5: Derive utilization rate by site of care and MDB range for LTC1 using historical data.
- Step 6: Calculate yearly increase adjustment factors using historical actual-to-expected trend.
- Step 7: Derive cumulative yearly increase cap based on historical data.
- Step 8: Utilization rates in the initial projection year for existing open claims are based on the recent year data of each individual claim if there is 180 days or greater exposure.

Active Mortality

Since CalPERS does not have a sufficiently large enough population to develop its own mortality rates, the SOA 2012 Individual Annuitant Mortality (IAM) table was used as a baseline. Adjustment factors are then applied based on CalPERS' experience.

The active mortality study for the June 30, 2024 valuation uses the program's mortality and exposure data as of June 30, 2024, filtered for years 2012 to 2023 and policy duration 15+, excluding 2020 and 2021. The following steps are used to develop the mortality assumption:

- Step 1: Summarize death counts and active exposures.
    - Death and exposure data are divided into several categories: age, gender, policy duration, and marital status. If there is a death, a full year of exposure is credited to the individual at the age of death.

Assumptions (continued)

  - Step 2: Apply duration adjustment factors to IAM 2012 rates reflecting the Program's experience level.
  - Step 3: Develop attained age group factors based on actual-to-expected ratios while reflecting gender variations.
  - Step 4: Develop marital status factors which vary by age groups based on actual-to-expected ratios.
  - Step 5: Mortality improvement assumption is applied to active lives using 100% of SOA Projection Scale G2. Mortality in 2017 is considered the average mortality level during the study period and the cumulative improvement from 2017 to the valuation year is accounted for in the projection.

Lapse

The lapse study for the June 30, 2024 valuation uses the program's lapse and exposure data as of June 30, 2024, excluding data after March 31, 2021. Experience after March 2021 and shock lapse data during historical rate increase timeframes were excluded from the study to mitigate distortion in the experience data. Policy terminations due to death or expiration of benefit are not included in this study. When a policy lapses, it receives a full year exposure at the duration of lapse. Due to the relatively low level of baseline lapse experience in the recent years, adjustment factors are applied to the final lapse rates to bring the assumption in line with recent experience.

Lapse rates are broken down by the following categories: issue age group and policy duration.

Expenses

This valuation reflects the following expense assumptions:

- The third-party administrator (TPA) cost assumptions reflect the terms in the updated contract with illumifin as of the valuation date. Expenses after the contract period are assumed to increase at an annual inflation rate of 2.3% plus additional fees per the contract terms.
- CalPERS operating expenses are projected based on expense cashflows during fiscal year 2023-24 and are assumed to increase with inflation each year. Projected operating expenses are assumed to decrease in 2034 by the ratio of the current in-force count to the prior year's in-force count. This is intended to reflect that eventually as the Program's population declines, expenses would decline as well. Additional bank transaction fees are projected based on a percentage of cashflow amount with annual inflation.
- An option for participants to pay premiums with credit card has been available since 2014. Credit card fees are assumed as a percentage of total premium cashflow, with annual increases accounting for contract fee increases and inflation.

Discount Rate

The 4.75% discount rate used in this valuation is based on the target asset allocation adopted by the Investment Committee of the board in March 2021. It is based on a blend of 10-year and 30-year capital market assumptions as of September 30, 2020. The blending method calculates the present value of expected cashflows using the short-term and long-term expected returns derived from the capital market assumptions, then finds a level discount rate that would result in the same present value of expected cashflows. The final discount rate assumption is rounded down to the nearest quarter.

In September 2024, the board approved a new target asset allocation. The current assumption has been reviewed for this valuation based on the updated target asset allocation and the Capital Market Assumptions in 2024.

Assumptions (continued)

Rate Increase Related Assumptions

A rate increase may prompt healthier participants to lapse or reduce benefits to lower the impact of the rate increase. Therefore, the total risk pool can become less healthy after a rate increase. Higher risk may be assumed by applying an anti-selection assumption for participants that remained in the program or that did not convert to less expensive policies.

Since the 6/30/2023 valuation, the claim incidence assumption was refined based on the experience data from the recent decade, excluding 2020 and 2021. A large portion of this data reflected the elevated level of claim incidence subsequent to the 2012 stabilization plan and subsequent to the 2021 premium increase plan. In addition, the claim incidence assumption updates refined the rates variation between inflation and non-inflation policies and between lifetime and non-lifetime policies. As such, the current claim incidence assumption is considered to represent a sufficient baseline level of incidence at the valuation date, and the anti-selection assumptions related to the previous years' rate increases were no longer applied.

This valuation reflects a 10% premium rate increase each year for two years starting in 2025 for non-partnership policies, and a 6.7% premium rate increase each year for three years starting in 2025 for partnership policies. For these rate increases, this valuation assumes the total shock lapses are 1.25% of the population. Anti-selection factors are applied to the claim incidence assumption by assuming the shock lapse population has 80% less claim incidence risk compared to the plan average. This effect is assumed to grade down over 10 years.

Appendix D – Summary of Policy Benefits

Summary of Model Cells Included in 6/30/2024 Projection

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	Inflation	LF	138	469,121
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	Inflation	MGI	61	173,619
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	Inflation	SF	69	220,357
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	No Inflation	LF	2,810	5,943,501
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	No Inflation	MGI	1,203	2,260,339
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	No Inflation	SF	1,108	2,076,539
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	Inflation	LF	845	4,617,559
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	Inflation	MGI	500	2,181,033
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	Inflation	SF	386	1,781,389
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	No Inflation	LF	3,325	10,274,288
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	No Inflation	MGI	1,415	3,768,609
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	No Inflation	SF	1,241	3,153,150
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	Inflation	LF	602	3,806,247
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	Inflation	MGI	598	3,066,409
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	Inflation	SF	407	2,281,618
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	No Inflation	LF	6,275	20,580,352
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	No Inflation	MGI	4,201	12,491,703
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	No Inflation	SF	3,460	10,016,946
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90	No Inflation	LF	3,276	16,601,950
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90	No Inflation	MGI	1,612	7,677,502
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90	No Inflation	SF	1,409	6,584,165
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	Inflation	LF	3,194	32,402,359
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	Inflation	MGI	3,572	28,442,426
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	Inflation	SF	2,227	18,908,476
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	No Inflation	LF	1,609	8,402,912
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	No Inflation	MGI	1,595	7,082,756
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	No Inflation	SF	1,124	4,742,042
LTC1	Comprehensive	50% HHC	50% ALF	In-Nonforfeiture	90	Inflation	LF	4	0
LTC1	Comprehensive	50% HHC	50% ALF	In-Nonforfeiture	90	Inflation	MGI	2	0
LTC1	Comprehensive	50% HHC	50% ALF	In-Nonforfeiture	90	No Inflation	LF	3	0
LTC1	Comprehensive	50% HHC	50% ALF	In-Nonforfeiture	90	No Inflation	SF	1	0
LTC1	Facilities Only		50% ALF	2 Year	90	Inflation	LF	34	88,905
LTC1	Facilities Only		50% ALF	2 Year	90	Inflation	MGI	10	31,463
LTC1	Facilities Only		50% ALF	2 Year	90	Inflation	SF	16	39,057
LTC1	Facilities Only		50% ALF	2 Year	90	No Inflation	LF	1,039	1,876,268
LTC1	Facilities Only		50% ALF	2 Year	90	No Inflation	MGI	268	422,902
LTC1	Facilities Only		50% ALF	2 Year	90	No Inflation	SF	321	460,301
LTC1	Facilities Only		50% ALF	3 Year	90	Inflation	LF	208	931,246
LTC1	Facilities Only		50% ALF	3 Year	90	Inflation	MGI	130	460,966
LTC1	Facilities Only		50% ALF	3 Year	90	Inflation	SF	115	421,101
LTC1	Facilities Only		50% ALF	3 Year	90	No Inflation	LF	1,364	3,407,725
LTC1	Facilities Only		50% ALF	3 Year	90	No Inflation	MGI	435	899,339
LTC1	Facilities Only		50% ALF	3 Year	90	No Inflation	SF	429	918,245
LTC1	Facilities Only		50% ALF	6 Year	90	Inflation	LF	76	445,470
LTC1	Facilities Only		50% ALF	6 Year	90	Inflation	MGI	40	191,673
LTC1	Facilities Only		50% ALF	6 Year	90	Inflation	SF	62	322,339
LTC1	Facilities Only		50% ALF	6 Year	90	No Inflation	LF	1,610	4,806,304
LTC1	Facilities Only		50% ALF	6 Year	90	No Inflation	MGI	508	1,318,437
LTC1	Facilities Only		50% ALF	6 Year	90	No Inflation	SF	561	1,329,025

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Summary of Model Cells Included in 6/30/2024 Projection

(LTC1 Continued)

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC1	Facilities Only		50% ALF	10 Year	90	No Inflation	LF	730	3,273,946
LTC1	Facilities Only		50% ALF	10 Year	90	No Inflation	MGI	236	935,681
LTC1	Facilities Only		50% ALF	10 Year	90	No Inflation	SF	269	1,015,451
LTC1	Facilities Only		50% ALF	Lifetime	90	Inflation	LF	471	4,113,055
LTC1	Facilities Only		50% ALF	Lifetime	90	Inflation	MGI	269	1,805,294
LTC1	Facilities Only		50% ALF	Lifetime	90	Inflation	SF	307	2,078,054
LTC1	Facilities Only		50% ALF	Lifetime	90	No Inflation	LF	311	1,480,400
LTC1	Facilities Only		50% ALF	Lifetime	90	No Inflation	MGI	177	605,723
LTC1	Facilities Only		50% ALF	Lifetime	90	No Inflation	SF	150	523,503
LTC1	Facilities Only		50% ALF	In-Nonforfeiture	90	Inflation	LF	1	0
LTC1	Facilities Only		50% ALF	In-Nonforfeiture	90	No Inflation	LF	3	0
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30	Inflation	LF	136	131,232
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30	Inflation	MGI	47	29,826
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30	Inflation	SF	41	26,564
LTC1	Partnership	50% HHC	50% ALF	1 Year	30	Inflation	LF	504	870,649
LTC1	Partnership	50% HHC	50% ALF	1 Year	30	Inflation	MGI	194	237,299
LTC1	Partnership	50% HHC	50% ALF	1 Year	30	Inflation	SF	226	264,259
LTC1	Partnership	50% HHC	50% ALF	2 Year	30	Inflation	LF	805	2,132,308
LTC1	Partnership	50% HHC	50% ALF	2 Year	30	Inflation	MGI	307	604,913
LTC1	Partnership	50% HHC	50% ALF	2 Year	30	Inflation	SF	367	670,966
LTC1	Partnership	50% HHC	50% ALF	In-Nonforfeiture	30	Inflation	LF	68	0
LTC1	Partnership	50% HHC	50% ALF	In-Nonforfeiture	30	Inflation	MGI	54	0
LTC1	Partnership	50% HHC	50% ALF	In-Nonforfeiture	30	Inflation	SF	9	0
LTC1 Subtotal								**61,180**	**259,177,256**

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Summary of Model Cells Included in 6/30/2024 Projection

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC2	Comprehensive	50% HHC	70% ALF	2 Year	90	Inflation	LF	26	87,487
LTC2	Comprehensive	50% HHC	70% ALF	2 Year	90	No Inflation	LF	593	1,160,008
LTC2	Comprehensive	50% HHC	70% ALF	2 Year	90	No Inflation	MGI	8	23,273
LTC2	Comprehensive	50% HHC	70% ALF	2 Year	90	No Inflation	SF	5	8,015
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	Inflation	LF	152	1,021,503
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	Inflation	MGI	1	7,689
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	Inflation	SF	1	12,048
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	No Inflation	LF	941	2,683,307
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	No Inflation	MGI	10	33,926
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	No Inflation	SF	6	14,640
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90	Inflation	LF	9	60,977
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90	No Inflation	LF	1,053	3,792,631
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90	No Inflation	MGI	15	56,742
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90	No Inflation	SF	16	59,489
LTC2	Comprehensive	50% HHC	70% ALF	10 Year	90	No Inflation	LF	651	3,067,520
LTC2	Comprehensive	50% HHC	70% ALF	10 Year	90	No Inflation	MGI	4	21,694
LTC2	Comprehensive	50% HHC	70% ALF	10 Year	90	No Inflation	SF	4	20,611
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	Inflation	LF	480	5,057,009
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	Inflation	MGI	3	41,719
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	Inflation	SF	6	56,858
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	No Inflation	LF	463	2,495,371
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	No Inflation	MGI	6	27,152
LTC2	Facilities Only		70% ALF	2 Year	90	Inflation	LF	5	19,856
LTC2	Facilities Only		70% ALF	2 Year	90	No Inflation	LF	118	200,796
LTC2	Facilities Only		70% ALF	3 Year	90	Inflation	LF	20	97,524
LTC2	Facilities Only		70% ALF	3 Year	90	No Inflation	LF	206	492,574
LTC2	Facilities Only		70% ALF	6 Year	90	Inflation	LF	3	19,651
LTC2	Facilities Only		70% ALF	6 Year	90	No Inflation	LF	151	409,488
LTC2	Facilities Only		70% ALF	10 Year	90	No Inflation	LF	95	321,448
LTC2	Facilities Only		70% ALF	10 Year	90	No Inflation	MGI	1	6,226
LTC2	Facilities Only		70% ALF	10 Year	90	No Inflation	SF	1	2,930
LTC2	Facilities Only		70% ALF	Lifetime	90	Inflation	LF	59	364,666
LTC2	Facilities Only		70% ALF	Lifetime	90	Inflation	MGI	1	17,078
LTC2	Facilities Only		70% ALF	Lifetime	90	No Inflation	LF	25	96,106
LTC2	Partnership	50% HHC	70% ALF	6 Mo	30	Inflation	LF	39	36,379
LTC2	Partnership	50% HHC	70% ALF	1 Year	30	Inflation	LF	65	122,840
LTC2	Partnership	50% HHC	70% ALF	2 Year	30	Inflation	LF	79	240,543
LTC2 Subtotal								**5,321**	**22,257,774**

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Summary of Model Cells Included in 6/30/2024 Projection

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	Inflation	LF	434	1,028,003
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	Inflation	MGI	59	100,155
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	Inflation	SF	53	100,041
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	No Inflation	LF	799	1,542,243
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	No Inflation	MGI	137	205,973
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	No Inflation	SF	134	176,960
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	Inflation	LF	963	3,472,583
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	Inflation	MGI	160	404,913
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	Inflation	SF	170	444,115
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	No Inflation	LF	1,102	2,332,843
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	No Inflation	MGI	124	180,043
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	No Inflation	SF	134	170,774
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	Inflation	LF	1,018	4,789,513
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	Inflation	MGI	211	761,344
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	Inflation	SF	174	677,945
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	No Inflation	LF	1,877	5,374,347
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	No Inflation	MGI	421	910,047
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	No Inflation	SF	341	716,735
LTC3	Comprehensive	70% HHC	70% ALF	10 Year	90	No Inflation	LF	5	20,442
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	Inflation	LF	689	4,599,918
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	Inflation	MGI	5	44,691
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	Inflation	SF	4	28,124
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	No Inflation	LF	776	3,353,650
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	No Inflation	MGI	14	63,867
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	No Inflation	SF	8	19,532
LTC3	Comprehensive	70% HHC	70% ALF	In-Nonforfeiture	90	No Inflation	LF	99	0
LTC3	Comprehensive	70% HHC	70% ALF	In-Nonforfeiture	90	No Inflation	MGI	9	0
LTC3	Comprehensive	70% HHC	70% ALF	In-Nonforfeiture	90	No Inflation	SF	13	0
LTC3	Facilities Only		70% ALF	2 Year	90	Inflation	LF	78	153,966
LTC3	Facilities Only		70% ALF	2 Year	90	Inflation	MGI	5	7,859
LTC3	Facilities Only		70% ALF	2 Year	90	Inflation	SF	13	18,202
LTC3	Facilities Only		70% ALF	2 Year	90	No Inflation	LF	165	250,892
LTC3	Facilities Only		70% ALF	2 Year	90	No Inflation	MGI	22	17,402
LTC3	Facilities Only		70% ALF	2 Year	90	No Inflation	SF	41	41,317
LTC3	Facilities Only		70% ALF	3 Year	90	Inflation	LF	161	505,646
LTC3	Facilities Only		70% ALF	3 Year	90	Inflation	MGI	24	55,079
LTC3	Facilities Only		70% ALF	3 Year	90	Inflation	SF	44	105,491
LTC3	Facilities Only		70% ALF	3 Year	90	No Inflation	LF	197	349,725
LTC3	Facilities Only		70% ALF	3 Year	90	No Inflation	MGI	24	30,964
LTC3	Facilities Only		70% ALF	3 Year	90	No Inflation	SF	48	41,423
LTC3	Facilities Only		70% ALF	6 Year	90	Inflation	LF	91	373,901
LTC3	Facilities Only		70% ALF	6 Year	90	Inflation	MGI	9	31,934
LTC3	Facilities Only		70% ALF	6 Year	90	Inflation	SF	11	33,457
LTC3	Facilities Only		70% ALF	6 Year	90	No Inflation	LF	261	688,775
LTC3	Facilities Only		70% ALF	6 Year	90	No Inflation	MGI	25	37,534
LTC3	Facilities Only		70% ALF	6 Year	90	No Inflation	SF	28	64,215
LTC3	Facilities Only		70% ALF	Lifetime	90	Inflation	LF	93	419,399
LTC3	Facilities Only		70% ALF	Lifetime	90	Inflation	MGI	1	2,889
LTC3	Facilities Only		70% ALF	Lifetime	90	No Inflation	LF	112	366,949
LTC3	Facilities Only		70% ALF	In-Nonforfeiture	90	No Inflation	LF	12	0
LTC3	Facilities Only		70% ALF	In-Nonforfeiture	90	No Inflation	MGI	1	0
LTC3	Facilities Only		70% ALF	In-Nonforfeiture	90	No Inflation	SF	3	0
LTC3	Partnership	70% HHC	70% ALF	6 Mo	30	Inflation	LF	8	12,000
LTC3	Partnership	70% HHC	70% ALF	1 Year	30	Inflation	LF	32	73,418
LTC3	Partnership	70% HHC	70% ALF	2 Year	30	Inflation	LF	44	170,116
LTC3 Subtotal								**11,486**	**35,371,353**

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Summary of Model Cells Included in 6/30/2024 Projection

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC4	Comprehensive	100% HHC	100% ALF	2 Year	90	Inflation	LF	181	590,472
LTC4	Comprehensive	100% HHC	100% ALF	2 Year	90	No Inflation	LF	142	396,939
LTC4	Comprehensive	100% HHC	100% ALF	3 Year	90	Inflation	LF	554	2,457,568
LTC4	Comprehensive	100% HHC	100% ALF	3 Year	90	No Inflation	LF	334	1,086,994
LTC4	Comprehensive	100% HHC	100% ALF	3 Year	90	No Inflation	MGI	1	1,247
LTC4	Comprehensive	100% HHC	100% ALF	6 Year	90	Inflation	LF	398	2,192,686
LTC4	Comprehensive	100% HHC	100% ALF	6 Year	90	No Inflation	LF	153	665,003
LTC4	Comprehensive	100% HHC	100% ALF	10 Year	90	Inflation	LF	224	1,424,936
LTC4	Comprehensive	100% HHC	100% ALF	10 Year	90	No Inflation	LF	124	566,861
LTC4	Comprehensive	100% HHC	100% ALF	In-Nonforfeiture	90	No Inflation	LF	21	0
LTC4	Partnership	100% HHC	100% ALF	6 Mo	30	Inflation	LF	5	13,297
LTC4	Partnership	100% HHC	100% ALF	1 Year	30	Inflation	LF	10	38,676
LTC4	Partnership	100% HHC	100% ALF	2 Year	30	Inflation	LF	18	133,229
LTC4	Partnership	100% HHC	100% ALF	In-Nonforfeiture	30	No Inflation	LF	1	0
LTC4 Subtotal								**2,166**	**9,567,908**
Grand Total								**80,153**	**326,374,292**

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Appendix E – Demographic Information

Data

We relied on the in-force data and claim information supplied by the third-party administrator (TPA) illumifin and have evaluated that data for reasonableness and consistency. The principal materials we used were provided by the TPA and internal financial reports and included:

1. Data extracts from TPA's administrative system
2. Financial statements
3. Plan descriptions

The Actuarial Valuation considers the quantitative and demographic characteristics of covered participants, including active participants and on-claim participants. This section presents a summary of significant statistical data on these participant groups. Future plan costs are affected by attained age, years in plan, and benefits chosen. In this year's valuation, there were 80,153 in-force participants averaging an attained age of 78 years and a policy duration of 25 years.

In-force Participants as of 6/30/2024 - Demographics and Policy Benefits

The following distributions of all in-force participants as of June 30, 2024 are included in Appendix E:

- By benefit period and elimination period
- By issue-age and attained-age
- By gender
- By coverage
- By inflation option
- By marriage status at issue
- By premium mode
- By underwriting type
- By product series

Distributions of Policies In-force as of 6/30/2024

By Benefit Period and Elimination Period

Benefit Period	Elimination Period	Policy Count	Percent	Annualized Premium	Percent
6 Month	30 Day	276	0%	249,299	0%
1 Year	30 Day	1,031	1%	1,607,140	0%
2 Year	30 Day	1,620	2%	3,952,076	1%
In-Nonforfeiture	30 Day	132	0%	0	0%
2 Year	90 Day	10,095	13%	20,192,229	6%
3 Year	90 Day	15,770	20%	48,817,270	15%
6 Year	90 Day	24,665	31%	82,372,936	25%
10 Year	90 Day	8,641	11%	41,541,363	13%
Lifetime	90 Day	17,751	22%	127,641,978	39%
In-Nonforfeiture	90 Day	172	0%	0	0%
Total		**80,153**	**100%**	**326,374,292**	**100%**

By Issue-Age Band and Gender

Issue-Age Band	Policy Count				Annualized Premium			
	Females	Males	Total	Percent	Females	Males	Total	Percent
< 30	304	163	467	1%	632,188	360,570	992,757	0%
30-39	3,002	1,708	4,710	6%	8,011,839	4,485,997	12,497,836	4%
40-44	4,260	2,230	6,490	8%	13,424,063	7,037,008	20,461,070	6%
45-49	8,012	4,213	12,225	15%	28,579,122	15,001,365	43,580,487	13%
50-54	11,818	6,561	18,379	23%	45,385,100	25,458,596	70,843,696	22%
55-59	12,035	7,092	19,127	24%	51,466,008	30,054,079	81,520,088	25%
60-64	7,783	5,012	12,795	16%	37,353,708	23,925,164	61,278,873	19%
65-69	3,026	1,772	4,798	6%	17,167,363	9,664,496	26,831,860	8%
70-74	740	273	1,013	1%	4,948,796	1,869,648	6,818,444	2%
75-79	105	31	136	0%	989,927	364,538	1,354,465	0%
80-84	11	2	13	0%	183,322	$11,395	194,717	0%
85-89	0	0	0	0%	0	0	0	0%
90-94	0	0	0	0%	0	0	0	0%
95+	0	0	0	0%	0	0	0	0%
Total	**51,096**	**29,057**	**80,153**	**100%**	**208,141,436**	**118,232,856**	**326,374,292**	**100%**

By Attained Age and Gender

Attained-Age Band	Policy Count				Annualized Premium			
	Females	Males	Total	Percent	Females	Males	Total	Percent
< 30	5	2	7	0%	7,893	3,242	11,135	0%
30-39	31	19	50	0%	42,368	24,790	67,158	0%
40-44	57	34	91	0%	123,813	76,633	200,446	0%
45-49	150	78	228	0%	347,070	176,826	523,895	0%
50-54	446	247	693	1%	1,097,919	608,324	1,706,243	1%
55-59	997	600	1,597	2%	2,594,961	1,561,287	4,156,248	1%
60-64	2,345	1,339	3,684	5%	6,781,775	3,881,864	10,663,639	3%
65-69	4,507	2,446	6,953	9%	14,302,059	7,788,036	22,090,095	7%
70-74	8,076	4,356	12,432	16%	28,619,557	15,727,311	44,346,868	14%
75-79	11,777	6,730	18,507	23%	46,338,267	26,323,836	72,662,103	22%
80-84	10,550	6,387	16,937	21%	44,911,722	27,791,593	72,703,315	22%
85-89	7,201	4,259	11,460	14%	34,370,513	20,297,632	54,668,145	17%
90-94	3,630	2,066	5,696	7%	19,757,292	10,755,164	30,512,456	9%
95+	1,324	494	1,818	2%	8,846,228	3,216,318	12,062,546	4%
Total	**51,096**	**29,057**	**80,153**	**100%**	**208,141,436**	**118,232,856**	**326,374,292**	**100%**

Distributions of Policies In-force as of 6/30/2024 (continued)

By Plan Type

Plan Type	Policy Count	Percent	Annualized Premium	Percent
Partnership (Comprehensive)	3,059	4%	5,808,516	2%
Comprehensive	64,790	81%	280,718,544	86%
Facilities Only	12,304	15%	39,847,233	12%
Total	**80,153**	**100%**	**326,374,292**	**100%**

By Inflation

Inflation	Policy Count	Percent	Annualized Premium	Percent
No Inflation	56,158	70%	179,597,647	55%
Inflation	23,995	30%	146,776,645	45%
Total	**80,153**	**100%**	**326,374,292**	**100%**

By Marriage Status at Time of Issue

Marital Status	Gender	Policy Count	Percent	Annualized Premium	Percent
Married	F	35,024	44%	139,498,995	43%
Married	M	24,172	30%	97,268,498	30%
Single	F	16,072	20%	68,642,441	21%
Single	M	4,885	6%	20,964,358	6%
Total		**80,153**	**100%**	**326,374,292**	**100%**

By Premium Mode

Premium Mode	Policy Count	Percent	Annualized Premium	Percent
Monthly	60,390	75%	251,457,125	77%
Quarterly	15,260	19%	55,557,373	17%
Semi-Annually	2,597	3%	10,975,570	3%
Annually	1,906	2%	8,384,224	3%
Total	**80,153**	**100%**	**326,374,292**	**100%**

By Underwriting Type

Underwriting Type	Policy Count	Percent	Annualized Premium	Percent
LF	45,855	57%	187,948,471	58%
MGI	18,735	23%	77,779,355	24%
SF	15,563	19%	60,646,467	19%
Total	**80,153**	**100%**	**326,374,292**	**100%**

By Product Series

Product Series	Policy Count	Percent	Annualized Premium	Percent
LTC 1	61,180	76%	259,177,256	79%
LTC 2	5,321	7%	22,257,774	7%
LTC 3	11,486	14%	35,371,353	11%
LTC 4	2,166	3%	9,567,908	3%
Total	**80,153**	**100%**	**326,374,292**	**100%**

Appendix F – Glossary of Actuarial Terms

Glossary of Actuarial Terms

Anti-Selection - Individuals who let their policies lapse because of special events (see "Shock Lapses") are usually in better health. A participant does not normally drop their coverage if they anticipate that they will soon have a claim. As a result of this participant decision process, individuals who retain their policies are often, on average, in worse health than those who lapse them. This phenomenon is called anti-selection.

Base Case - The results of a projection using the "best estimate" assumptions in the LTC valuation. All sensitivity projections are done relative to this base case.

Benefit Period - This is the period of time that an insured would receive benefits if the full maximum daily benefit amount was paid each day an insured is on claim. If less than the maximum daily benefit amount was paid, the length of time that a claimant would receive benefits would be greater than this time period.

Claim Incidence - The probability of a policyholder incurring a claim is referred to as claim incidence.

Claim Termination - The probability that an existing claim will cease is referred to as claim termination.

Comprehensive Plan - A plan that covers home health care in addition to care in a nursing home and/or an assisted living facility.

Conversion - The voluntary decision to switch or reduce coverage, sometimes as the result of a specific event such as a premium rate increase.

Credible - A statistical measure of the degree to which data is considered reliable for predictive purposes. Credibility increases as a block of business grows and as more data accumulates over time.

Margin Percentage – Can be also described as the surplus/deficit as a percentage of the present value of future premiums. This is a calculation that determines the degree to which the current fund value is insufficient to pay future benefits, expressed as a percentage of the present value of future premiums. A negative margin, which means it is a deficit, is an estimate of what one-time rate increase would be needed to bring the Program back to the target margin level. If the current fund value is more than enough to pay future benefits, the surplus is represented by a positive number. In formula terms:

{Current Fund Balance + Present Value of Premiums - Present Value of Benefits and Expenses} / Present Value of Premiums

Discount Rate - An interest rate used to determine present values. For CalPERS, the discount rate is set equal to the expected investment earnings rate.

Policy Duration - The amount of time, typically measured in years from the issue date of the policy. Policy duration is sometimes referred to as policy year.

Glossary of Actuarial Terms (continued)

Elimination Period - The period of time in which the participant pays for care before benefits are paid from insurance proceeds.

First Principles Model - A model that uses fundamental concepts and assumptions to project cash flows. First principles model calculations tend to use more granular assumptions and track policyholder status and transitions more closely than a comparable claim cost model does.

Facility-Only Plan - A type of plan that pays for care in a nursing home or assisted living facility, but not for care at home or in the community.

Funded Status - Method of expressing the current financial status of the Program, which is consistent with the CalPERS pension plan financial status measurements. In general, the funded status is the assets divided by the accrued liability, or reserves. For long-term care insurance, the accrued liability is equal to the present value of future benefits and expenses less the present value of future premiums. This definition is consistent with a statutory gross premium valuation reserve for LTC insurance. In this context, a breakeven position is a ratio of 100%. In formula terms:

Fund Balance / {Present Value of Benefits and Expenses - Present Value of Premiums}

Incidence - The number of participants that start a claim as a percentage of the participants that could start a claim over a specified time period (i.e., probability of claim).

Incurred But Not Reported (IBNR) - an estimate of the liability for claim-generating events that have taken place but have not yet been reported.

Inflation Coverage - An optional feature that increases the amount of available benefits over time to protect a participant against rising health care costs. The CalPERS inflation coverage offers four different levels of automatic inflation protection: 3 or 5 percent simple, and 3 or 5 percent compound.

LTC1, LTC2, LTC3, LTC4 - Four different long-term care insurance plans sold to CalPERS participants. The main differences between the plans are the percentages of daily benefit for Home Health Care (HHC) and Assisted Living Facility (ALF) care available at the time of claim in comparison to the Nursing Home (NH) coverage for comprehensive policies. A summary of those benefits and the initial issue year is shown below.

LTC1 (1995) - NH (100%) / ALF (50%) / HHC (50%)
LTC2 (2003) - NH (100%) / ALF (70%) / HHC (50%)
LTC3 (2005) - NH (100%) / ALF (70%) / HHC (70%)
LTC4 (2014) - NH (100%) / ALF (100%) / HHC (100%)

MDB / DBA – Maximum daily benefit, or daily benefit amount. This is the maximum dollar amount limit that the LTC policy would reimburse for eligible services each day, or is used to calculate other benefit limit amounts such as the monthly or total coverage amount.

Model - An actuarial tool used to project future cash flows including premiums, claims, investment returns, and expenses.

Glossary of Actuarial Terms (continued)

Morbidity - The generic term for the various assumptions underlying the expected/projected claims of a block of business.

Mortality - The rate of death.

Partnership Plan - A collaboration or “partnership” between the state government, insurance companies, and state residents who buy long-term care Partnership policies. The purpose of the Partnership Program is to encourage individuals to purchase LTC coverage and save the state money by increasing the private funding of LTC services, thereby reducing Medicaid payments for LTC. The advantage of the partnership plan for a participant is that once their insurance coverage is exhausted, their assets in an amount equal to the amount of insurance coverage used are protected when qualifying for Medicaid payments for LTC.

Present Value - A calculation that expresses future cash flows in a current cash equivalent amount based on assumed future interest rates (the discount rate).

Selection Factors - Factors used to adjust attained age or ultimate morbidity to levels reflecting recent underwriting/issue, generally reducing the projected claims associated with those policies. Different selection factors are also used for the mortality assumption.

Shock Lapses - An insurance phenomenon where individuals have a higher chance to allow their policies to lapse/terminate due to a specific event such as a premium rate increase.

Terminations - The policies that are no longer active due to death, voluntary lapse, or any other reason.

Underwriting Type - Underwriting is the process of evaluating and selecting risks to be insured. Three types of underwriting were utilized at various times by CalPERS:

- Modified Guaranteed Issue (MGI) - limited underwriting for younger applicants active in the workforce
- Short Form (SF) - simplified application process with limited medical evaluation for younger applicants.
- Long Form (LF) - considered “full underwriting” due to the comprehensive nature of the medical questions asked and the associated underwriting process.

CalPERS only uses the long form of application for underwriting since 2002.

Voluntary Lapsation - Occurs when a participant chooses to voluntarily terminate their policy rather than terminate due to death or limitations on renewing contained within the policy itself.

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