Office of the State Actuary
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October 17, 2008

Ms. Sandra J. Matheson, Director
Department of Retirement Systems
PO Box 48380
Olympia, WA 98504-8380

Dear Sandy,

This letter serves as a follow-up to the July 30, 2008, meeting of the LEOFF Plan 1 Medical Study Group.

Thank you for inviting me to attend and present to the group. I appreciate the opportunity to clarify actuarial information for involved stakeholders in the pension community. I hope I answered most of the group's questions regarding the LEOFF Plan 1 OPEB liability and the LEOFF Plan 1 pension fund.

During the meeting, I committed to provide the following additional information:

- Annual breakdown of the expected LEOFF 1 medical liabilities.
- Illustrations comparing the relative cost of general medical expenses to long-term care expenses.

In the attachment to this letter I provide graphs and analysis addressing these questions.

Additionally, I understand some members asked questions at the September meeting regarding the 8 percent assumed rate of return used to value the pension liability versus the 4.5 percent discount rate used to value the medical liability. In general, the group might want some clarification of why we use different interest rates for different purposes and our justification for each, particularly for the discussion of using a 5.5 percent rate to determine if a current surplus exists.

The 8 percent assumption used in the pension system reflects the expected long-term rate of return on pension assets. Pension assets are put aside years in advance of being used and are generally invested in "riskier" asset classes with higher potential rewards. This says that if you had assets equal to the present value of projected benefits today, you could allow those assets to grow at 8 percent and pay pension benefits as they arise. The expected amount of money left after all pension members are gone would be zero.

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On the other hand, the funds that pay OPEB expenses are collected in the same year that they are paid out (pay-as-you-go funding). They are not invested over many years like pension contributions. This short-term timeframe means the assets are invested in shorter term (lower rate of return) investments. The State Treasury expects to make approximately 4.5 percent per year on these investments, so the OPEB liability is discounted at 4.5 percent.

The 5.5 percent used in surplus discussions is a different topic that uses the same principle outlined above. We use the 5.5 percent rate of return to signify what the liability would look like when it is still pre-funded (money set aside in advance, like in the pension system), but invested in "risk-free" investments. "Risk-free" investments are typically bonds, where there is a relatively high likelihood of retaining your principle investment, which results in a lower expected rate of return. The lower expected rate of return on secure long-term bonds is generally between 5 percent and 6 percent. Using this lower rate of return provides greater certainty that a projected surplus will occur than when using the higher expected but not guaranteed returns from "riskier" investments.

I hope this has clarified the use of different rates of return for the different situations. Again, thank you for the opportunity to work with the group.

Sincerely,

Matt Smith, FCA, EA, MAAA
State Actuary

Enclosures:

LEOFF 1 Medical Cost Projection By Source
Expected Future Costs for 100 Sixty-Year Old Members
Expected Future Costs for 100 Eighty-Two Year Old Members

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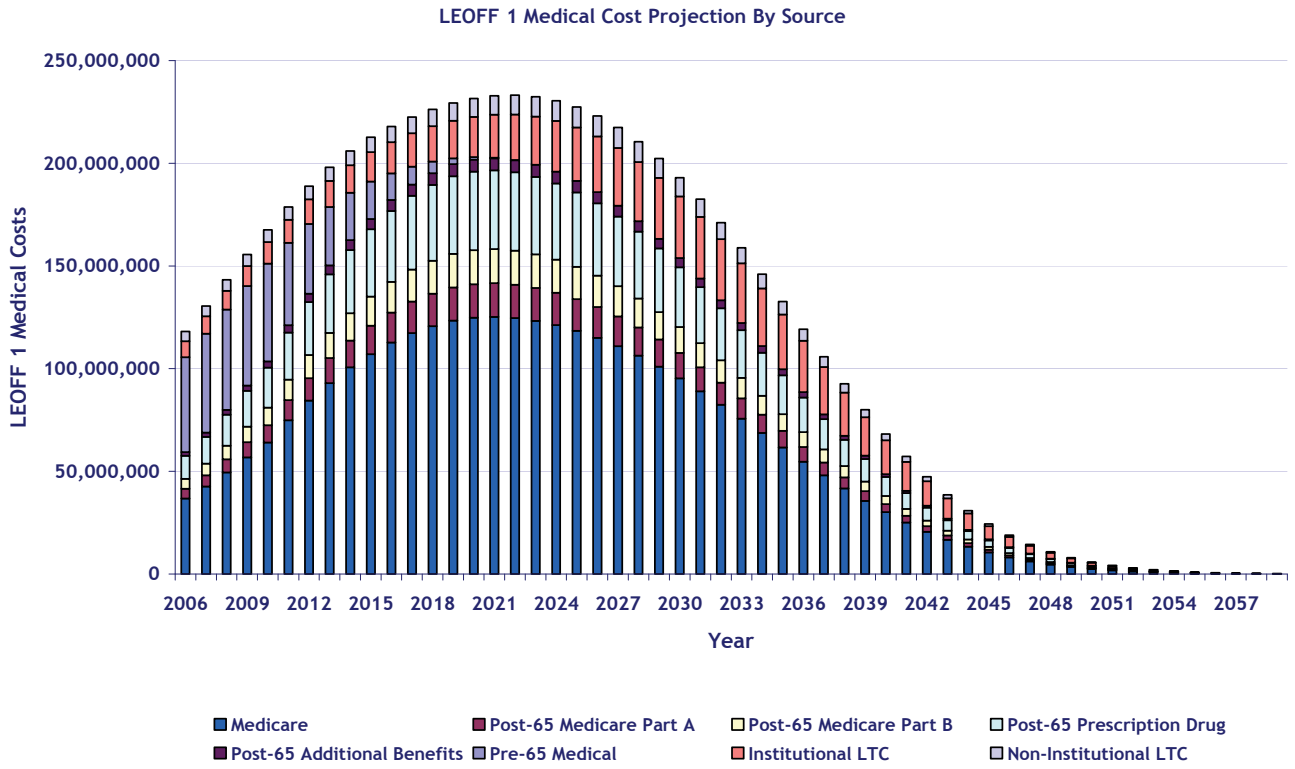
LEOFF 1 Medical Cost Projection By Source

The graph on the following page estimates the total medical liability for LEOFF Plan 1 members each year to 2060, and displays it by the major cost components. Those components are listed in the color-coded key at the bottom of the graph.

Analysis:

- Total projected medical cost increases steadily until 2022, after which it decreases.
- This steady increase and decrease corresponds with the increase and decrease of the projected cost covered by Medicare.
- While the annual Medicare covered cost varies substantially, the annual cost to the employers is more steady over time.
- The Medicare covered cost increases from $40,000,000 in 2006 to a peak of approximately $125,000,000 in 2022, and back to about $75,000,000 by 2033.
- The employer cost over this same time period increases from approximately $75,000,000 in 2006 to a peak of just over $100,000,000 in 2022, and back to approximately $75,000,000 in 2033.
- Medicare is generally paying half of the total medical liability in most years, and in the peak cost years (2014-2029) it is paying slightly more than half.
- Pre-65 medical cost is substantial to start, but gradually decreases until it is effectively gone by 2021.
- Post-65 prescription drug cost increases steadily to a peak in 2022 and is the major employer cost through the peak cost years (2014-2029).
- Institutional long-term care doesn't become the primary cost driver for employers until 2030. Prior to 2030, either the pre-65 medical cost or the post-65 prescription drug cost is the primary cost item for employers.

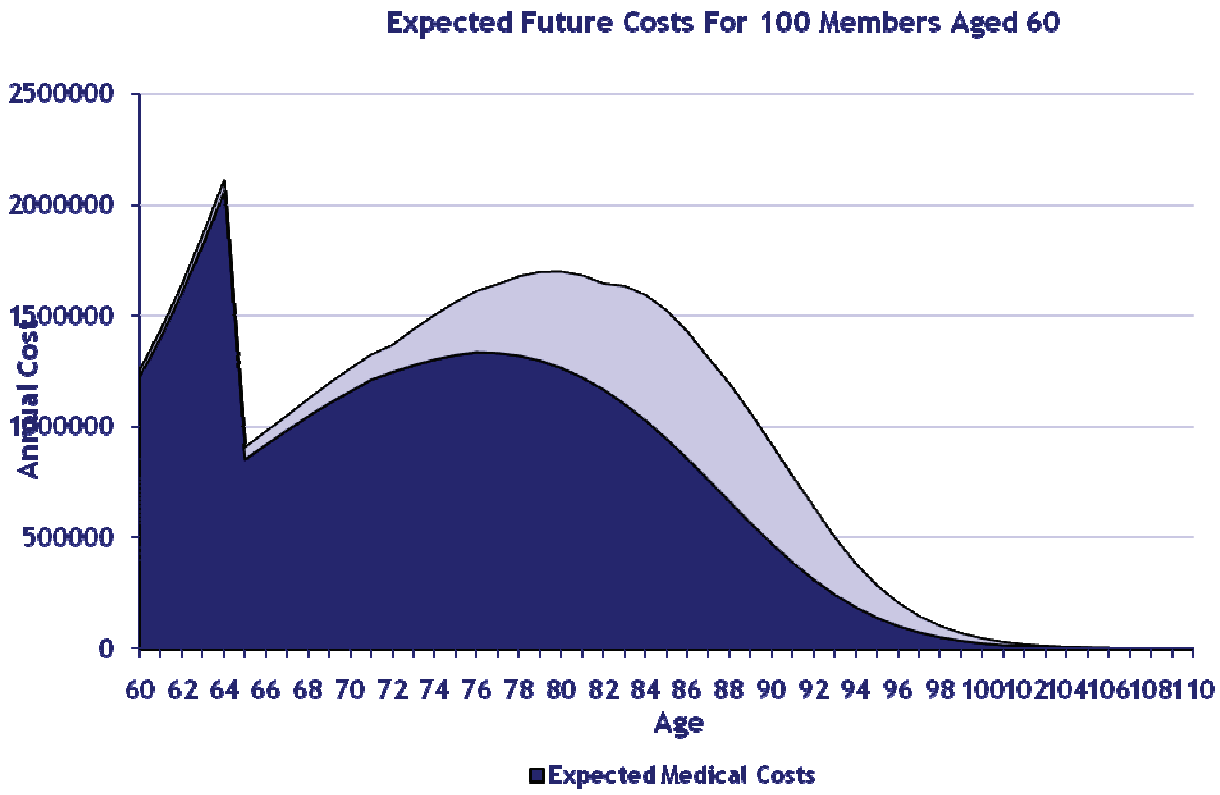

LEOFF 1 Medical Cost Projection By Source
LEOFF 1 Medical Costs
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
0
2006
2009
2012
2015
2018
2021
2024
2027
2030
2033
2036
2039
2042
2045
2048
2051
2054
2057
Year
Medicare
Post-65 Medicare Part A
Post-65 Medicare Part B
Post-65 Prescription Drug
Post-65 Additional Benefits
Pre-65 Medical
Institutional LTC
Non-Institutional LTC

Expected Future Costs for 100 Members Aged 60

The next graph compares the expected medical and long-term care liability of the employer for 100 representative LEOFF Plan 1 members. The liability begins with their current age of 60, and shows the changing expected liability through age 110. The purpose of this graph is to show how the two cost items vary over time with respect to each other, including pre- and post-Medicare coverage.

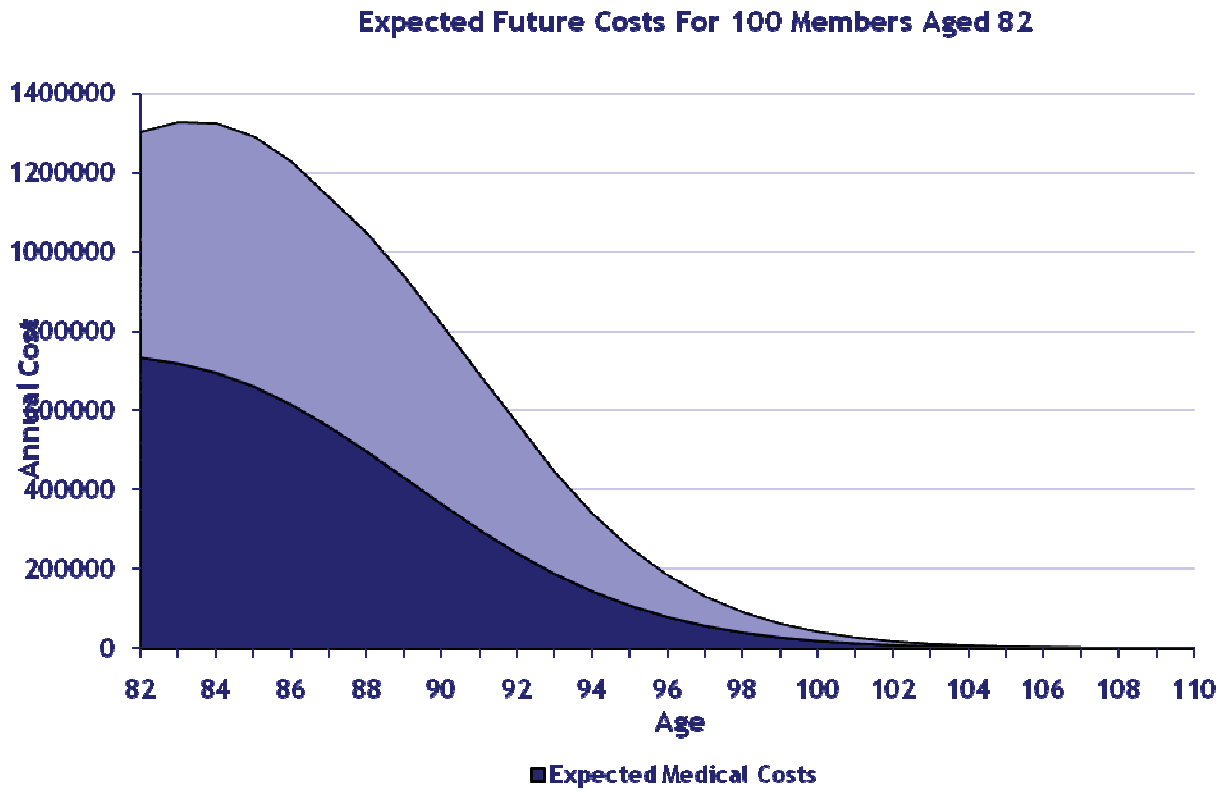
Analysis:

- The total expected cost increases rapidly from age 60 to age 65.
- The point of greatest expected cost to the employer is just before age 65, and very little of that expected cost is due to long-term care.
- At age 65, Medicare begins covering expenses and the employer cost is reduced by over half.
- The total expected cost then increases from age 65 through age 81, at which point it steadily decreases.
- Until very late ages (90+), expected annual medical cost is much greater than the expected annual long-term care cost.
- Expected long-term care cost is greatest when members are in their 80s


Expected Future Costs For 100 Members Aged 60
2500000
2000000
1500000
1000000
500000
0
Annual Cost
60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100 102 104 106 108 110
Age
Expected Medical Costs

Expected Future Costs for 100 Members Aged 82

The final graph compares the expected medical and long-term care liability of the employer for 100 representative LEOFF Plan 1 members. The liability begins with their current age of 82, and shows the changing expected cost through age 110. The purpose of this graph is to show in more detail than the previous graph how the two cost items vary with respect to each other from the time when the long-term care cost is near its peak.

Analysis:

- The total expected cost increases slightly from age 82 to age 83.
- The point of greatest expected cost to the employer is between age 83 and 84.
- After age 84, the total annual cost decreases steadily.
- Until the members are in their 90s, the expected medical cost is somewhat more than half of the expected long-term care cost.
- At the late ages (90+), the expected long-term care cost is greater than the expected medical cost.
- The long-term care cost is greatest when members are in their 80s.