



Addendum: COVID-19 Qualitative Impact and Considerations on Actuarial Projections for a State-Based Catastrophic Insurance Program

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The Society of Actuaries (SOA) Research Institute commissioned a survey of stakeholders in Minnesota to determine the efficacy of, and support for, a public catastrophic long-term care (LTC) insurance program. In conjunction with this survey, the SOA Research Institute also commissioned Milliman to consider the qualitative impact of COVID-19 on actuarial projections for a state-based catastrophic insurance program. We outline these considerations, and how they might compare to COVID-19 considerations that relate to the private LTC insurance (LTCI) market actuarial projections, below.

Traditional LTCI Projection Assumptions

Many of the COVID-19 considerations that apply to the private LTCI market would also apply to a state-based catastrophic insurance program. Some of these considerations were highlighted in a 2021 SOA Research Institute survey conducted by Milliman, titled “COVID-19 Impact on Long-Term Care Insurance Report – 2021 Survey”¹ (2021 LTCI COVID Survey), which evaluated the impact of COVID-19 on LTCI mortality, voluntary lapse, and morbidity experience. Below we include considerations from this survey and other sources, including high-level newer and emerging information, for the private LTCI market and highlight how they might compare to considerations for projecting a state-based catastrophic insurance program.

¹ <https://www.soa.org/globalassets/assets/files/resources/research-report/2021/covid-19-impact-ltc.pdf>. The 2021 LTCI COVID Survey is a follow-up to a prior study published in early 2021: <https://www.soa.org/4a49a9/globalassets/assets/files/resources/experience-studies/2021/covid-impact-ltc-2020-survey.pdf>

MORTALITY

Mortality assumptions in actuarial projections help estimate how long individuals will live while “healthy” (active life mortality) and “on claim” (disabled life mortality). Both types of mortality assumptions are important for projecting future insurance program revenue and benefit payments.

The 2021 LTCI COVID Survey reported an increase in active life mortality (averaging a 6.4% increase) and an even larger increase in disabled life mortality (averaging 12.1%) for the responding insurers. Despite the observed impact on mortality, most insurers reported they did not change mortality valuation assumptions due to pandemic experience, as noted in Figure 6 from the 2021 LTCI COVID Survey. The impact of COVID-19 on future short-term and long-term mortality is unknown.

In performing actuarial projections for a state-based catastrophic insurance program, whether to adjust short-term and long-term mortality assumptions due to the impact of COVID-19 should also be considered. Given a state-based program would likely have a different demographic and claims risk makeup than a private LTCI plan, the impact to active life and disabled life mortality may differ from what has been observed in the private market. The impact to estimated program benefit payments could also be magnified under a catastrophic design due to changes to disabled life mortality. For example, changes to disabled life mortality would impact a state-based catastrophic insurance program with no benefit maximum more than a private LTCI plan with benefits capped to a limited pool, all else equal.

MORBIDITY

Morbidity assumptions in actuarial projections help estimate the amount of benefits that will be paid from an insurance program. Morbidity assumptions are commonly comprised of assumptions for incidence (the likelihood someone starts receiving benefits), length of stay (the likelihood someone will continue to receive benefits, heavily driven by disabled life mortality as described above), and utilization (the level / intensity of the benefits, described here and in the next section). Morbidity assumptions are important for projecting future insurance program benefit payments.

Per the 2021 LTCI COVID Survey, insurers generally experienced decreased incidence levels in the immediate wake of COVID-19. Since then, insurers reported incidence rates increasing, but still not to pre-pandemic levels, through March 2021. Insurers also reported shifts from facility care to home care for both existing and new claims (a trend that was already occurring prior to the pandemic but was accelerated by COVID-19 and appears to have not reverted to pre-COVID-19 levels). Despite observed impact on morbidity, most insurers did not change their valuation morbidity assumptions due to pandemic experience, as noted in Figure 6 from the 2021 LTCI COVID Survey. Anecdotal experience from several carriers indicates that incidence experience continues to trend back toward pre-pandemic levels, although the experience in this regard appears to be varied by carrier.

In performing actuarial projections for a state-based catastrophic insurance program, whether to adjust short-term and long-term morbidity assumptions due to the impact of COVID-19 should also be considered. Given a state-based program would have a different demographic and claims risk makeup than a private LTCI plan, the impact to morbidity rates may be different for a state-based program than for what has been observed in the private market. The impact of COVID-19 on morbidity for a state-based program could also differ to the extent rules for benefit eligibility differ from the private market.

In addition to an eligibility trigger similar to the private market, Minnesota stakeholders considered a condition-based benefit, where the benefit payout would be based on the medical diagnosis of specific conditions. Since much of the pandemic impact to lower incidence has been attributed to a reluctance for individuals to enter a nursing facility or have an aide enter their home, rather than an improvement in health status, it might not be expected that a condition-based benefit would be affected by COVID-19 in a similar way (or at all).

SERVICE COST

Cost of care assumptions in actuarial projections help estimate the service costs for providing care in a nursing home, assisted living facility, or at home that is covered or reimbursed (up to a program maximum) under an insurance program. The change in service costs can also be important for an insurance program if the program benefit payments or program maximum benefits are indexed to service cost trends.

Per the 2021 Genworth Cost of Care Survey², the cost of LTC increased more than historical levels amidst the COVID-19 pandemic. This has been generally attributed to labor shortages and general inflation, as well as the cost of COVID-19 protocols such as personal protective equipment (PPE), COVID-19 testing, and vaccines. It is yet to be seen whether cost drivers will persist or eventually revert to pre-pandemic levels.

As noted above, service cost trends will have a larger impact on a state-based catastrophic insurance program when benefit amounts are indexed to cost of care trends. This design structure was included with the Minnesota stakeholder survey.

INTEREST RATES

Interest rate assumptions in actuarial projections help estimate how much insurance program funding will come from investment income versus premiums / taxes. Interest rate assumptions are important for projecting future insurance program revenue to the extent the program builds up reserves or trust funds and earns investment income on those reserves / trust funds to help finance the program's benefits and expenses.

The results of the 2021 LTCI COVID Survey would suggest that interest rates were the most changed valuation assumption due to COVID-19 and its impact on the resulting economic environment.

Just as interest rates impact the sufficiency of a private LTC insurer's reserves, under a state-based catastrophic program the interest rate determines the level of interest earned of any program fund balance. As the interest rate earned by a fund increases, the necessary revenue funded through payroll tax (or other revenue source) to remain in a surplus position decreases. The funding structure and investment strategy for such a program would impact this assumption and how the economic environment should be considered.

VOLUNTARY LAPSE

Voluntary lapse assumptions in actuarial projections help estimate how long individuals will keep their insurance coverage. Voluntary lapse assumptions are important for projecting future insurance program revenue and benefit payments when program participation is not mandatory.

The 2021 LTCI COVID Survey found mixed voluntary lapse experience attributed to the COVID-19 pandemic. In the context of a *mandatory* state-based catastrophic insurance program (for which Minnesota stakeholders indicated a preference), the topic of voluntary lapses need not be considered.

² <https://genworth2014.q4web.com/investors/news-releases/archive/archive/2022/Genworths-2021-Cost-of-Care-Survey-Long-Term-Care-Costs-Increase-Due-to-Labor-Market-Shifts-and-Costs-Associated-with-Continued-COVID-19-Response/default.aspx#:~:text=The%20national%20annual%20median%20cost,home%20increased%202.41%25%20to%20%24108%2C405>

Additional Considerations Unique to a State-based Program

To perform actuarial projections for a state-based catastrophic insurance program, additional demographic and economic assumptions must be considered beyond the assumptions included in private LTCI market projections, including the following.

BIRTHS

Birth rates impact actuarial projections for a state-based catastrophic insurance program, as when birth rates decrease the average age of the state population increases and there are fewer working individuals (i.e., individuals contributing to program revenue via a payroll tax structure) relative to elderly individuals (i.e., those eligible for program benefits).

While the COVID-19 pandemic led to a significant, though brief, decrease in birth rates beyond already continual decrease, as of late 2021 nationwide birth rates were back to pre-pandemic levels.³ Potential short-term and long-term impacts to birth rates as a result of the COVID-19 pandemic should be considered in actuarial projections for a state-based catastrophic insurance program.

MIGRATION

Assumptions about individuals moving into and out of the program state (domestically and internationally) are relevant to actuarial projections of a state-based catastrophic program, as they impact the projection of the state's population. The influence of migration assumptions can be heightened depending on the portability of the program's benefit. For example, under a program where the benefit is not portable, a decrease to out-migration may increase program benefit payments as more individuals remain in the state and are eligible for benefits. If the benefit is portable, a change in out-migration may have less of an impact on the program's benefits payments as individuals will be eligible for benefits whether they remain in the state or move out.

The impact of COVID-19 on migration varied by type of migration (i.e., international vs. domestic), as well as by state. Pre- and post-COVID-19 migration experience should be considered specific to the program state for a state-based catastrophic insurance program. In particular, the post-COVID-19 impact and pattern of how individuals may work remotely out-of-state while potentially being subject to payroll taxes under a state-based catastrophic program will need to be modeled and considered.

LABOR FORCE AND UNEMPLOYMENT RATES

In the case of a program funded via a payroll tax (as considered by Minnesota stakeholders), economic assumptions such as labor force and unemployment rates directly affect the program's revenue and are a key assumption in developing actuarial projections. Labor force rates also impact the projection of benefit payment under programs where work requirements determine individuals' eligibility to receive benefits, such that when more individuals are working there will be a larger pool of individuals eligible for benefits.

³ <https://www.nationalacademies.org/event/06-01-2022/the-impact-of-covid-19-on-birth-rates-considerations-for-planning-and-policy-webinar>

COVID-19 had a large impact on employment (with unemployment rates reaching 13% in the second quarter of 2020⁴). While employment overall has been recovering since 2021 (with an unemployment rate of 3.4% as of January 2023⁵), the recovery has varied by industry, state, and demographic of workers.

Given the significance of this assumption in actuarial projections as well as the considerable impact COVID-19 had on employment, post-COVID-19 employment recovery (to date, as well as future expectations) specific to the program state should be considered in performing actuarial projections of program revenue. Further, to the extent the workforce demographics shifted as a result of COVID-19 in a program state, the future demographic characteristics of beneficiaries may also be impacted and should be considered if a program features work requirements for eligibility.

WAGES AND WAGE GROWTH

Like labor force and unemployment rates, the expected wages and wage growth are key assumptions to developing actuarial projections for a program funded by a payroll tax, directly impacting the revenue collected by the program.

COVID-19's impact on wages and wage growth are intertwined with the impact on labor force and unemployment rates. The US median wage increased during the pandemic as low-wage workers were disproportionately affected by high unemployment⁶. As the impact of COVID-19 on labor force and employment rates are considered in performing actuarial projections for a state-based catastrophic insurance program, corresponding evaluation of wages and wage growth should be considered.

Caveats and Limitations

This information provides considerations on the qualitative impact of COVID-19 on actuarial projections for a state-based catastrophic insurance program. In completing this analysis, we relied on publicly available information. We accepted without audit, but reviewed the information for general reasonableness. Certain parts of the summary may not be appropriate if this information is not accurate.

Future experience can differ from the assumptions and considerations described in this report. Experience should be monitored as it emerges, and assumptions updated accordingly.

⁴ <https://www.bls.gov/opub/mlr/2021/article/unemployment-rises-in-2020-as-the-country-battles-the-covid-19-pandemic.htm>

⁵ <https://www.bls.gov/news.release/pdf/empsit.pdf>

⁶ <https://www.pewresearch.org/fact-tank/2021/09/07/despite-the-pandemic-wage-growth-held-firm-for-most-u-s-workers-with-little-effect-on-inequality/>

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