Milliman

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COVID-19 mortality experience analysis for multiemployer plans

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How has COVID-19 impacted mortality experience for multiemployer plans? Over the past year various studies have emerged focusing on the mortality experience of different subgroups, such as country of origin,[1] race,[2] age,[3] and workplace.[4] However, these factors do not directly reflect employer experience in various industries.

For this report, Milliman actuaries have collected multiemployer pension plan mortality experience data covering nearly 900,000 individuals from plan years beginning in 2016 through 2020. We have analyzed the data to better understand how COVID-19 has impacted the mortality experience for multiemployer plans and what impacts it may have on future years.

For purposes of this analysis, the impact of COVID-19 includes COVID-19 deaths as well as excess deaths indirectly related to the pandemic, such as those due to drug overdose, hypertension, and delays of care.

Results of analysis

Total deaths for all employee statuses (active, vested terminated, retired, beneficiary, disabled) are summarized in the table in Figure 1.

FIGURE 1: TOTAL EMPLOYEE DEATHS

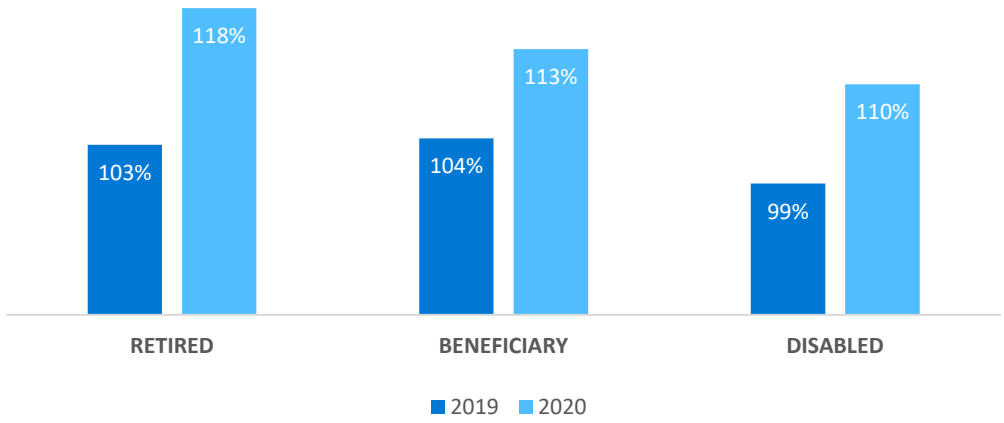
	POPULATION	TOTAL DEATHS	RATE OF DEATH
2016	849,224	14,098	1.66%
2017	854,883	14,066	1.65%
2018	867,723	14,384	1.66%
2019	875,813	14,844	1.69%
2020	883,465	16,759	1.90%

As Figure 1 indicates, there was a 12% increase in rate of death from 2019 to 2020, and a 14% increase from 2018 to 2020. These figures are slightly lower than the 16% increase from 2019 to 2020 for the total population reported by the Centers for Disease Control and Prevention (CDC).[5] Note that the 2019 data in the Milliman study likely includes some COVID-19 deaths (see the **About the data** section below). Therefore, in some instances, a comparison of 2020 to 2018 results might more accurately reflect the impact of COVID-19 than a comparison of 2020 to 2019 results.

Actual vs. expected deaths

Actuaries use mortality tables tailored to each plan to anticipate future deaths of participants in a given plan. One way to review the impact of COVID-19 is to look at how the ratio of actual experience to expectations for 2020 compares to the ratio of actual experience to expectations for 2019. We assume that the mortality assumptions for determining expected deaths were the same in 2019 and 2020, and that any changes in assumptions would not have had a material impact on the results shown here. While some of the data that we have included for 2019 would have been influenced substantially by the first few months of the pandemic, the majority of our 2019 data reflects pre-pandemic experience. The graph in Figure 2 shows our findings by employee status for participants who were in payment status at the beginning of the given plan year.

FIGURE 2: ACTUAL VS. EXPECTED DEATHS



There is a noticeable change in how well experience tracked the expectations of plan actuaries, and this is likely due to the impact of COVID-19. The number of deaths relative to the number expected increased significantly between 2019 and 2020 for all groups of employees, especially for retirees in pay status. Retirees saw a 15% increase in the ratio of actual to expected deaths, beneficiaries a 9% increase and disabled participants an 11% increase. Interesting to note is that the disabled population did not see the highest increase in death rate. Individuals with multiple impairments have been more likely to die of COVID-19, but they are not necessarily those who are disabled.

Estimating the future and why it matters

Given the information we have so far, what can we anticipate for 2021 and in future years?

At the time that the data for this analysis was collected, 2021 experience for the population studied was not yet available. However, preliminary 2021 data indicates distinct trends. Based on general population data provided by the CDC, it is expected that 2021 mortality experience will continue to reflect the impact of COVID-19, albeit with the greater impact shifting from the older population to plan participants who are still working age.[7] Worth noting is that when including the increase in non-COVID-19 deaths in both 2020 and 2021, the highest increase in rate of death across the population has been for the 35- to 44-year-old age group. For any pension plan in particular, the impact in 2021 may or may not follow the pattern of these observations.

The Society of Actuaries (SOA) has been conducting research pertaining to COVID-19 and publishing results since as early as March 10, 2020, one day before COVID-19 was declared a pandemic by the World Health Organization. The research has addressed a wide range of topics related to the pandemic, including mortality experience. While the focus has been on the population at large or distinct subsets, patterns of impact on multiemployer plan participants will likely mimic those of the general population.

In August 2022, the SOA published COVID-19 and the Short-Term Impact on Future U.S. Mortality: An Expert Opinion Study,[8] which summarizes what experts anticipate being the impact of COVID-19 on mortality in future years. Specifically, the experts were asked to estimate excess mortality in the years 2022, 2023, 2025 and 2030 for ages 25, 45, 65 and 85. The expectation is that the excess mortality in 2022 will continue to be significant, especially for the younger ages, but that the excess will steadily decrease and be down to 2% or less by 2030. Generally, the impact is expected to be seen most at younger ages and decreasing with each 20-year age increment. Both actuaries and non-actuaries contributed to the expert opinion study.

There has been some ambiguity around the definition of projected excess mortality. Should it be based on 2019 mortality levels with or without any improvement assumption for a specific year? The difference becomes more significant with time as improvement rates are compounded year over year. If we define excess mortality as compared to 2019 mortality levels without mortality improvement, even if excess mortality is down to 1% by 2030, the implication is that we would expect no mortality improvement to have occurred from 2019 to 2030, which would be markedly significant.[9]

Why does it matter? Mortality rate assumptions are inversely proportional to pension plan liabilities. Lower mortality rate assumptions mean longer expected payout periods and higher liabilities. Higher mortality rate assumptions mean shorter expected payout periods and lower liabilities. Changes in mortality assumptions typically have less of an impact on the funded status of a plan than economic factors such as investment returns and inflation, but they may make a difference in the long term.[10]

Conclusion

Our multiemployer mortality experience analysis is generally consistent with CDC findings and points to the potential for a significant impact of COVID-19 on a given group of plan participants. Plans that experienced more deaths than expected due to COVID-19 will see actuarial gains due to deaths (the plan has a lower pension liability because more people died than expected). It remains to be seen whether this will be followed by a return to “normal” levels of death. Will there continue to be more deaths than expected due to delays in care? Will long COVID increase death rates either in the short term or permanently?

While it is too early to evaluate the long-term effects of COVID-19, tracking experience is the first step to confirming whether assumptions will need to be updated in the future. The actuarial community is working towards a consensus on how COVID-19 should be reflected in mortality assumptions, if at all. The best approach may need to be determined on a plan-by-plan basis. If you have any questions about what this might mean for your plan, please contact your Milliman consultant.

About the data

The data included in this analysis is based on the plan years beginning in the respective calendar year. For plan years that begin in April or later, the 2019 data includes COVID-19-related experience because the plan year did not end until after March 2020. For example, a plan year beginning October 1, 2019, included March through September 2020, or seven months of pandemic data. However, the significant majority of the 2019 experience is “pre-pandemic” while most of the 2020 experience occurred during the pandemic.

This analysis was based on census data provided for purposes of actuarial valuations, which does not distinguish between causes of death and is subject to the potential inaccuracies of reporting associated with that process.

ENDNOTES

1. Johns Hopkins University of Medicine. Mortality Analyses. Coronavirus Resource Center. Retrieved November 8, 2022, from https://coronavirus.jhu.edu/data/mortality.
2. Chin, M.K. et al. (May 24, 2021). Asian American Subgroups and the COVID-19 Experience: What We Know and Still Don't Know. Health Affairs. Retrieved November 8, 2022, from https://www.healthaffairs.org/do/10.1377/forefront.20210519.651079/.
3. Dadras, O. et al. (May 23, 2022). COVID-19 mortality and its predictors in the elderly: A systematic review. PubMed. Retrieved November 8, 2022, from https://pubmed.ncbi.nlm.nih.gov/35620541/.
4. Nafilyan, V. et al. (December 2021). Occupation and COVID-19 mortality in England: A national linked data study of 14.3 million adults. Occup Environ Med. Retrieved November 8, 2022, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8718934/.
5. Ahmad, F.B. et al. (April 9, 2021). Provisional Mortality Data – United States, 2020. CDC Morbidity and Mortality Weekly Report. Retrieved November 8, 2022, from https://www.cdc.gov/mmwr/volumes/70/wr/mm7014e1.htm.
6. SHIFT. Essential and Vulnerable: Most Service Sector Workers Lack Paid Sick Leave Amid COVID-19 Pandemic. Retrieved November 8, 2022, from https://shift.hks.harvard.edu/newsroom/essential-but-unprotected-most-service-sector-workers-lack-paid-sick-leave-amid-covid-19-pandemic/.
7. Silverman, S. et al. (June 7, 2022). How does our experience with COVID-19 impact the life insurance industry going forward? Retrieved November 20, 2022, from https://www.milliman.com/en/insight/how-does-covid-19-impact-the-life-insurance-industry-going-forward.
8. Stryker, Ronora (August 2022). COVID-19 and the Short-Term Impact on Future U.S. Mortality: An Expert Opinion Survey. Retrieved November 20, 2022, from https://www.soa.org/4a28d8/globalassets/assets/files/resources/research-report/2022/covid-19-short-term-impact-us-mort-report.pdf.
9. Spong, Mark (November 11, 2022). How Should COVID Experience be Used for Setting Future Mortality? Society of Actuaries Webcast.
10. Melinte, John (November 2022). Impact of COVID-19 on Defined Benefit Pension Plan Funding. The Actuary. Retrieved November 20, 2022, from https://www.theactuarymagazine.org/impact-of-covid-19-on-defined-benefit-pension-plan-funding/?utm_medium=email&utm_source=rasa_io&utm_campaign=newsletter.

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