

# Reflection of COVID-19 in Life Insurance Mortality Improvement

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Life Actuarial Task Force (LATF) Meeting—May 26, 2022

# Overview

- ❑ The American Academy of Actuaries' Life Experience Committee discussed how pandemics, and specifically COVID-19, would be reflected in projects such as asset adequacy testing and principle-based reserves (PBR) testing
- ❑ The committee's conclusion was that we will not find the perfect answer, but it would be helpful to develop a list of considerations that may be taken into account when developing mortality improvement assumptions



# General Questions

- Does COVID-19 impact the mortality improvement assumption for PBR up to the date of valuation?
- Does COVID-19 impact the mortality improvement assumption for asset adequacy testing?
- Does COVID-19 impact the future mortality improvement assumption for PBR?
- Does COVID-19 impact the future mortality improvement assumption for asset adequacy testing?
- When considering COVID-19, should decreases in the mortality improvement be considered for annuity/long-term care insurance (LTCL) mortality?



# What Should Be Considered a COVID-19 Death?

At issue: If one is trying to determine excess deaths due to COVID-19,

- Does the determination include all deaths where COVID-19 was a factor in the death?
- Are COVID-19 deaths only those where it is listed as the primary cause of death?
- How does one determine COVID-19 deaths when some states do not list cause of death?



# In Actuarial Work for PBR and Asset Adequacy Testing, Should Past COVID-19 Deaths Be Ignored for Mortality Improvement to date of Valuation?

## Yes

1. Rare event covered by surplus/RBC
2. May have front-loaded deaths that would have occurred soon, so it is a positive for future mortality

## No

1. Methodology originally established for PBR mortality improvement to date of valuation included all deaths
2. Ignoring it would be the equivalent of ignoring stock market corrections
3. If future mortality is expected to be better, it should be reflected in future mortality improvement numbers instead



# Factors That Can Impact Future Mortality Improvements

## Positives

1. May have front-loaded deaths that would have occurred soon, so it is a positive for future mortality
2. Population mortality is generally improving, albeit at slower rates absent COVID-19; e.g., for cancer
3. Increased use of self-testing and telemedicine has increased access to medical care for many

## Negatives

1. Long COVID
2. Mental health impact of COVID including suicides and drug use
3. Mortality rates on certain diseases like heart disease, diabetes, liver disease and hypertension not improving recently
4. Delay in care may lead to extra deaths
5. There are still additional waves of virus



# Considerations re: Future Mortality Rates

- Mortality improvement varies by socioeconomic variables. An actuary could review these and determine which quintile/decile best matches their company's block of business
- The larger provisions for adverse deviation (PADs) used on the mortality improvement assumption, the more uncertainty there is in the assumption
- Margins used in mortality improvement rates for PBR testing and asset adequacy do not have to be the same, but differences should be justified
- No studies yet done on offsets, e.g., annuity vs life insurance



# Considerations re: Future Mortality Rates—Cont'd

- To date, the negative impact of COVID-19 on long-term care insurance (LTCI) mortality improvement has not been studied: the positive impact of front-loaded deaths may be offset with claimants experiencing long COVID
- Expected mortality improvements vary by age groups
- Consider differences in pandemic versus endemic phases of COVID





# Regulatory Considerations

- No single answer works for all
- May want to consider setting an established range of acceptable mortality improvement rates that could be allowed



# Thank You

- Questions?
  
- For more information, please contact the Academy's life policy analyst, Amanda Barry-Moilanen, at [barrymoilanen@actuary.org](mailto:barrymoilanen@actuary.org).

