

Covid-19 pandemic

Mortality-related considerations for DB pension schemes



The first wave of the Covid-19 pandemic has resulted in a significant number of additional deaths in the UK. In this paper, we consider the impact that this may have on the funding level of defined benefit (DB) pension schemes. We also discuss the implications for undertaking mortality analyses and for setting future mortality rates.

Impact of the Covid-19 pandemic on deaths in the general population

Covid-19 has led to deaths in 2020 being significantly higher than the corresponding period for past years, with weekly deaths at the peak of the pandemic being more than twice as high as would be expected in a “normal” year.

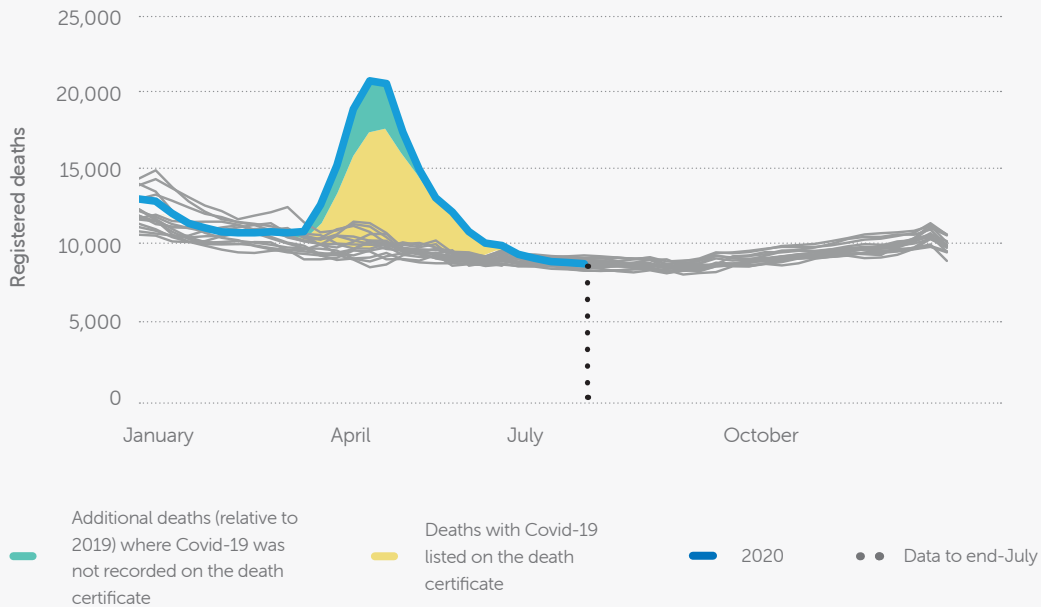
The first wave of the Covid-19 pandemic in the UK appears to be over, with deaths since June returning to around normal levels. However, many experts have commented that it is likely that further waves of deaths may occur.

These are illustrated in the chart overleaf.

Executive Summary

- The pandemic has caused around 63,000 additional deaths in the UK in 2020 (as of late June 2020).
- The direct impact of these deaths for the average DB pension scheme will be relatively small - the reduction in pensioner liability values is likely to be less than 0.5%.
- The long-term impact of the pandemic on future mortality is very uncertain. It is likely that standard models used for projecting future changes in mortality rates will need to be adjusted.
- Recent experience and uncertainty does not invalidate the usefulness of scheme specific longevity analyses. Indeed, better understanding of the socio-economic make-up of a scheme’s membership is likely to prove useful regardless of the outcome of the pandemic.

WEEKLY REGISTERED DEATHS BY YEAR (3-WEEK AVERAGE), 2005 TO 2020



Source: Office for National Statistics data for England and Wales

The chart above shows the total number of deaths registered in England and Wales each week in 2020 (thick blue line) compared to the years 2005 to 2019 (grey lines) as reported by the Office for National Statistics (ONS). The chart also shows (in yellow) the number of deaths registered in England and Wales with Covid-19 listed on the death certificate. In a typical year, deaths are higher in the winter (due to influenza and other seasonal effects) and lower in the summer.

The increase in weekly deaths during the first wave of the pandemic is higher than the number of deaths with Covid-19 registered on the death certificate. Research published by the Continuous Mortality Investigation (CMI) estimates that around 75% of the additional deaths observed so far in 2020 could be directly attributed to Covid-19 (the yellow shaded area), which still leaves around 25% of the additional deaths “unexplained” (the shaded green area in the chart). The additional deaths not directly attributed to Covid-19 may include:

- Deaths where Covid-19 was involved, but was not included on the death certificate;
- Deaths indirectly related to the pandemic. For example, increased pressure on health services, cancellation of hospital treatments or fewer people going to Accident and Emergency.

What does this mean for pension scheme liabilities?

We have seen about 60,000 more deaths than expected in the UK in 2020 (end of July 2020). If these deaths had occurred evenly across the pensioner population, this would result in a direct reduction in average pensioner liabilities of around 0.5%.

However, these additional deaths have fallen disproportionately on older age groups and in more deprived areas. In practice, the impact on pension scheme liabilities is therefore likely to be lower than 0.5% because individuals in these two groups tend to have lower pension scheme liabilities.

The direct impact on pension scheme liabilities of the first wave of the coronavirus pandemic is therefore small, and for most pension schemes, less than 0.5% of liabilities.

Unanswered questions

The analysis above shows that, even in the event of a major pandemic, the direct impact on pension scheme liabilities is fairly small. A key question is therefore: will the current pandemic have a lasting impact on mortality rates?

In short, we do not yet know enough about the long-lasting effects of the pandemic to answer this question – future mortality rates are uncertain even in normal times, and we may not have a strong indication of the impact of the pandemic on mortality rates for at least several months, if not years. The box shows the key questions that will need to be answered before we have a clearer indication.

- To what extent have the deaths that occurred in 2020 been brought forward from the next few years?
- Will there be any further waves of deaths, and how will the size of these compare to the first wave?
- To what extent will survivors of Covid-19 be more frail as a result of catching the virus?
- How will an economic recession in the UK affect mortality?

Illustrations of different scenarios

In the context of the uncertainty described above, we have considered four scenarios (one for each of the unanswered questions) to illustrate how the pandemic may affect mortality in the coming years. The blue area shows “normal” mortality in the general population, the grey area shows excess deaths as a result of the pandemic and the dark blue line indicates future mortality rates if they remained at the same level as in 2020.

The scenarios below are only intended to be illustrations of the possible impact as there is still a considerable amount of uncertainty at present, and in reality the scenarios could interact with each other. The scenarios have been exaggerated so that any impacts are more visible.

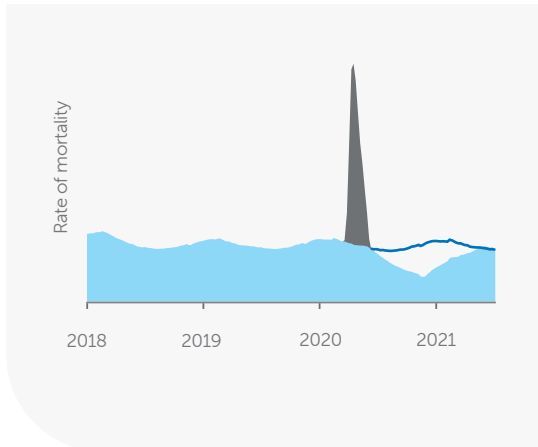
It is difficult to know which (if indeed any) of the below scenarios are likely to occur. However, it is likely that for many pension schemes the impact on liability values is likely to be small (likely less than 1% of liabilities).

⋮ The impact on pension scheme liability values due to changes in future mortality rates is therefore likely to be much smaller than the impact of recent asset volatility.

SCENARIO 1

Deaths have been brought forward

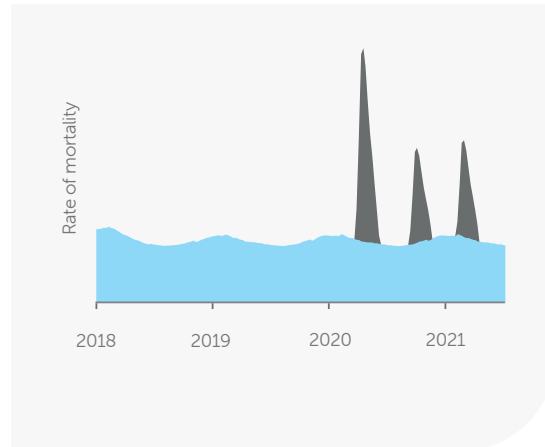
In this scenario, we speculate that a significant proportion of additional deaths (due to Covid-19) in 2020 would ordinarily have occurred next year. Mortality next year will be lower as a result.



SCENARIO 2

Further waves

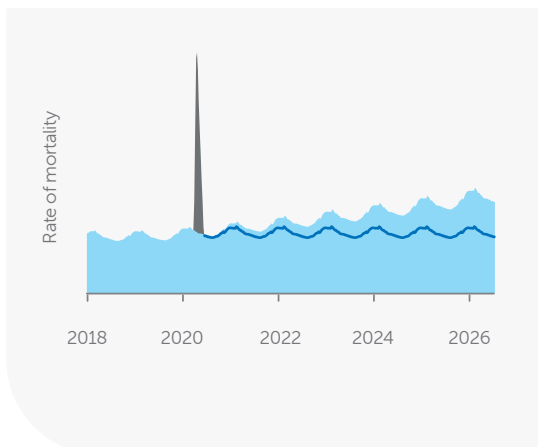
Further waves of deaths as lockdown is relaxed or due to seasonal reoccurrence of the virus, would lead to a greater reduction in liability values for the average pension scheme.



SCENARIO 3

Frail population

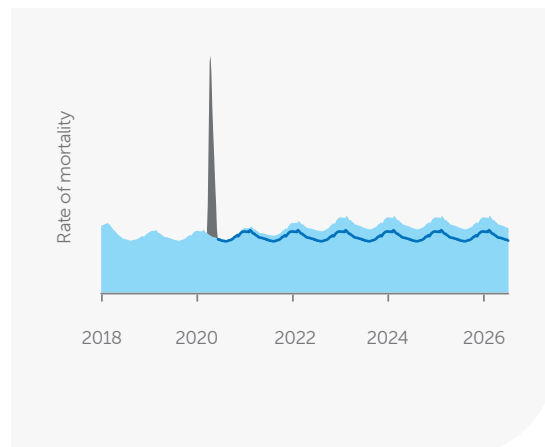
The population is more frail as a result of catching and surviving Covid-19 causing a gradual rise in "normal" mortality rates in the future. This will lead to an increase in the number of future deaths and a corresponding fall in average pension scheme liabilities. Typical life expectancy would be reduced.



SCENARIO 4

Economic recession

Mortality rates rise in an economic recession as a result of a freeze or fall in public healthcare spending. This may result in a fall in future mortality improvements. Typical life expectancy would be reduced, although the effect would vary across different socio-economic groups.



Should the direct impact of the pandemic be allowed for in valuation results?

Trustees and sponsors may wish to make an allowance for the direct impact of Covid-19 on their scheme. However, unless the adjustment is based on actual scheme experience, any adjustment for the direct impact should be small as discussed above. Many schemes with valuation dates prior to April 2020 may therefore decide to make no allowance for the direct impact of the pandemic for reasons of prudence.

One exception is perhaps smaller schemes with highly concentrated liabilities. These schemes may wish to undertake an analysis of actual experience to understand whether any high liability members have died, as this would materially change the expected cost of funding the scheme.

Setting appropriate future mortality assumptions in light of Covid-19

As discussed above, the impact of the pandemic on future mortality rates is uncertain, making setting a reliable future mortality assumption challenging. Mortality assumptions are typically formed of two parts: the rates of mortality at a current date, and an assumption for how those mortality rates are going to change in the future.

We consider how trustees and sponsors may approach each of these steps in turn below.

Mortality rates at a current date – are traditional analyses still useful in these times?

When setting the assumption for mortality at a current date, pension schemes often analyse mortality factors to help set more reliable mortality assumptions. Traditional mortality analyses typically take into account the socio-economic profile of the scheme, and for larger schemes are also likely to include an analysis of scheme's historical mortality experience.

These analyses rely on an assumption that past experience will be a relatively good guide to the future, which is not the case in 2020. An obvious question to ask then is whether these analyses are useful in the current environment.

Our view is that it is still useful for trustees to continue to assess the relative mortality of their schemes via a mortality analysis for the following reasons:

- The relative impact of the pandemic will vary significantly from scheme to scheme. Carrying out an assessment of a scheme's mortality will provide helpful information for assessing to what degree the coronavirus has affected the scheme.
- Although the coronavirus may affect underlying rates of mortality, mortality rates will still vary by socio-economic status. It is therefore likely that the output of a socio-economic based assessment of mortality will remain a robust means of setting an assumption for rates of mortality.
- The impact of the additional deaths in 2020 will be more muted in an experience analysis that looks over a five or six year period, allowing other features of the scheme's experience to shine through when setting a base table adjustment.

Future changes in mortality rates – further information needed?

Once rates of mortality for a scheme at a current date have been set, an assumption is required as to how those rates are going to change in the future, namely the “mortality improvements” assumption. Most UK pension schemes use the CMI Mortality Projections Model to determine their mortality improvements assumption. However, given the high number of deaths in 2020, models like this will need to be revised or adjusted as they are typically built to deal with more normal levels of variations in mortality, and not the extreme experience of 2020.

We expect to know more on the likely adjustments to the CMI Mortality Projections Model in advance of the release of the next version of the Model, CMI_2020, which would normally be published in spring 2021. Until more information is known, trustees may decide that a pragmatic approach

for setting future improvements in mortality rates is to use the latest available CMI Model, which incorporates data up to the end of 2019 and makes no allowance for the effects of the pandemic. It is likely that this will be a slightly prudent approach, with any funding gains due to this additional prudence coming through at the next valuation (when there will also be an opportunity to revisit the assumptions with greater clarity).

Please contact your Barnett Waddingham consultant if you would like to discuss any of the above topics in more detail. Alternatively get in touch via the following:



Jack Carmichael

Consulting Actuary

✉ jack.carmichael@barnett-waddingham.co.uk

✉ info@barnett-waddingham.co.uk

☎ 0333 11 11 222

www.barnett-waddingham.co.uk

Barnett Waddingham LLP is a body corporate with members to whom we refer as “partners”. A list of members can be inspected at the registered office. Barnett Waddingham LLP (OC307678), BW SIPP LLP (OC322417), and Barnett Waddingham Actuaries and Consultants Limited (06498431) are registered in England and Wales with their registered office at 2 London Wall Place, London, EC2Y 5AU. Barnett Waddingham LLP is authorised and regulated by the Financial Conduct Authority. BW SIPP LLP is authorised and regulated by the Financial Conduct Authority. Barnett Waddingham Actuaries and Consultants Limited is licensed by the Institute and Faculty of Actuaries in respect of a range of investment business activities.