



Covid-19: an uncertain future for mortality

The Covid-19 pandemic has had a dramatic impact on mortality rates. The effects of this will flow through LGPS funding levels as member experience is taken into account, but administering authorities will also need to understand how the uncertainty caused by the pandemic will affect future mortality rates and improvements.





Introduction

Even before the pandemic struck there was a great deal of uncertainty surrounding the direction of future mortality improvements and what we've observed over the past two years has only exacerbated this. In order to help steer through the uncertainty, we have set out some possible scenarios post-pandemic to help determine what each might mean for future mortality improvements, life expectancies and the impact on your pension fund.

The allowance for this future uncertainty of mortality will ultimately be built into the assumptions we make at the 2022 triennial valuation for your fund.

⋮ The term **mortality improvement** refers to the extent by which the mortality rates of a given population decrease from one year to the next – positive improvements give increases in life expectancy. In terms of a pension fund's valuation, the quicker mortality rates are expected to improve, the higher the resulting liabilities will be and the higher costs to the pension fund as a result.

However, the purpose of this briefing is to help inform you of how this current uncertainty is being considered and put our assumptions into a real-world context.

In principle, when we make allowance for future mortality improvements we are assuming that an individual retiring in 20 years will live longer, on average, than the same individual if they were to retire today (assuming they are the same age at retirement). However, the difficulty is in assuming how much longer, on average, the individual retiring in 20 years will live for, i.e. how mortality rates will change over the next 20 years. We adopt a model to help us make this assumption.

Scenario analysis: impact of Covid-19 on future mortality

The pandemic has undoubtedly changed the landscape for future mortality - listed below are a number of medical, economic and social factors which will determine future mortality improvements. In the analysis that follows we consider how these factors may contribute to changes in life expectancies.

INCREASED LIFE EXPECTANCY?

- Advancements in vaccine science
- Greater public health awareness
- Stronger surviving population
- Healthier lifestyle through home working
- Better prepared for the next pandemic

DECREASED LIFE EXPECTANCY?

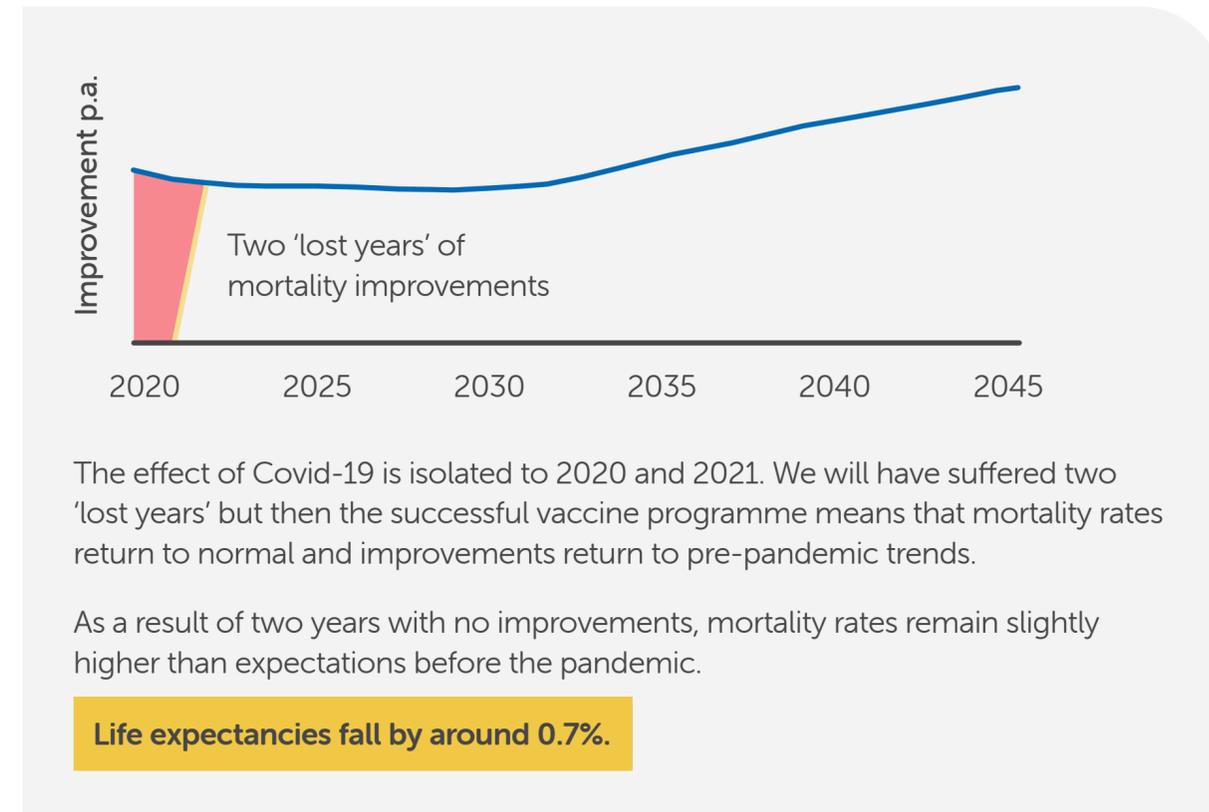
- Future waves of Covid-19
- Individuals with "Long Covid" health implications
- NHS backlogs – delays in diagnosis and treatment
- Economic recession – reduced healthcare spending and living standards
- Lockdown hangover – loss of support network, lifestyle impairments

Whilst we are already experiencing changes in a number of these factors, the exact effect the changes will have on future mortality are very uncertain. For example, we are seeing an economic squeeze on households due to rising inflation and increases in the cost-of-living. It is reasonable to assume that this will stifle improvements but the exact impact is still uncertain and will be dependent on how quickly the situation improves.

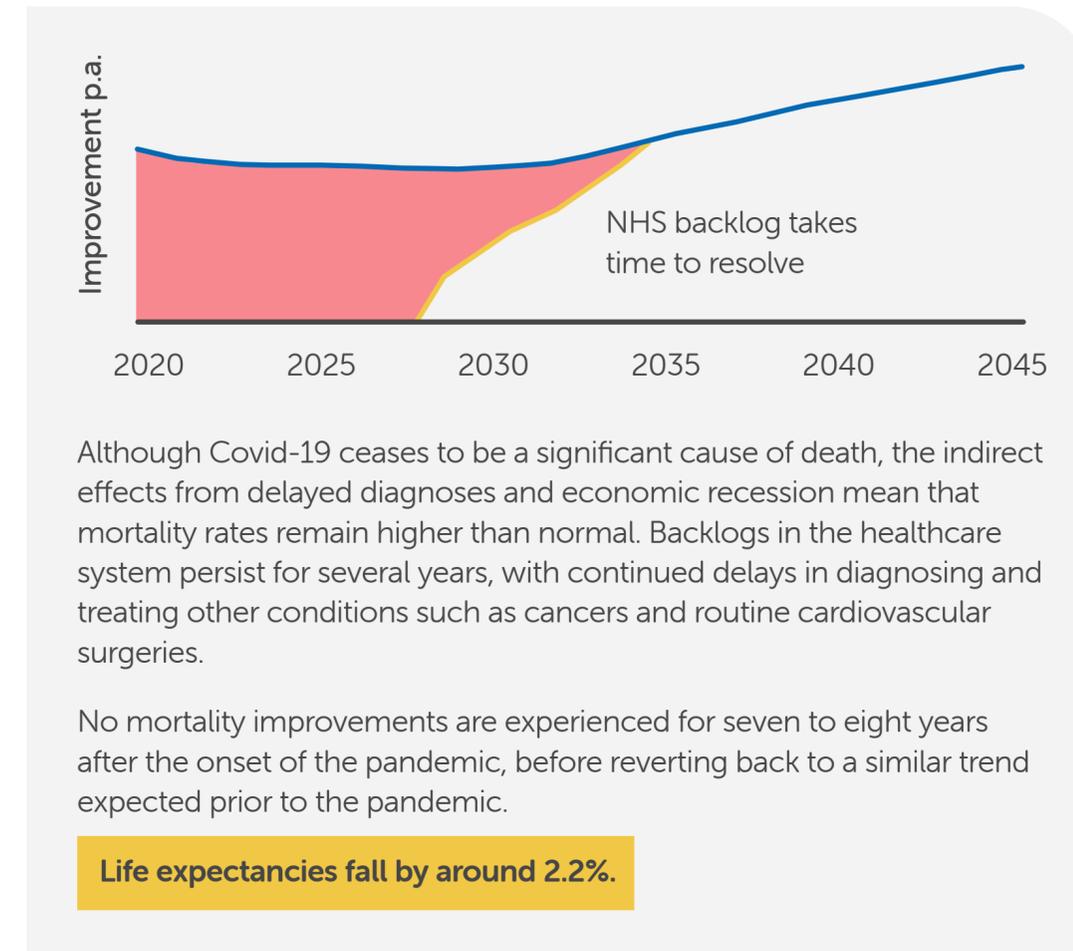
It is worth emphasising that the factors above are only a small snapshot of the factors being considered in our analysis. There are of course a vast multitude of factors affecting mortality levels and improvements in pension schemes. For the purposes of this report we have only considered scenarios which, in our view, form a realistic outlook for future improvements in mortality of members of the LGPS.

Our general view is that in the short-term the effects of the pandemic is more likely to be detrimental to life expectancies, so we have considered four scenarios to that effect.

Scenario 1 – Quickly back to normal



Scenario 2 – Pandemic effects linger for several years



KEY:

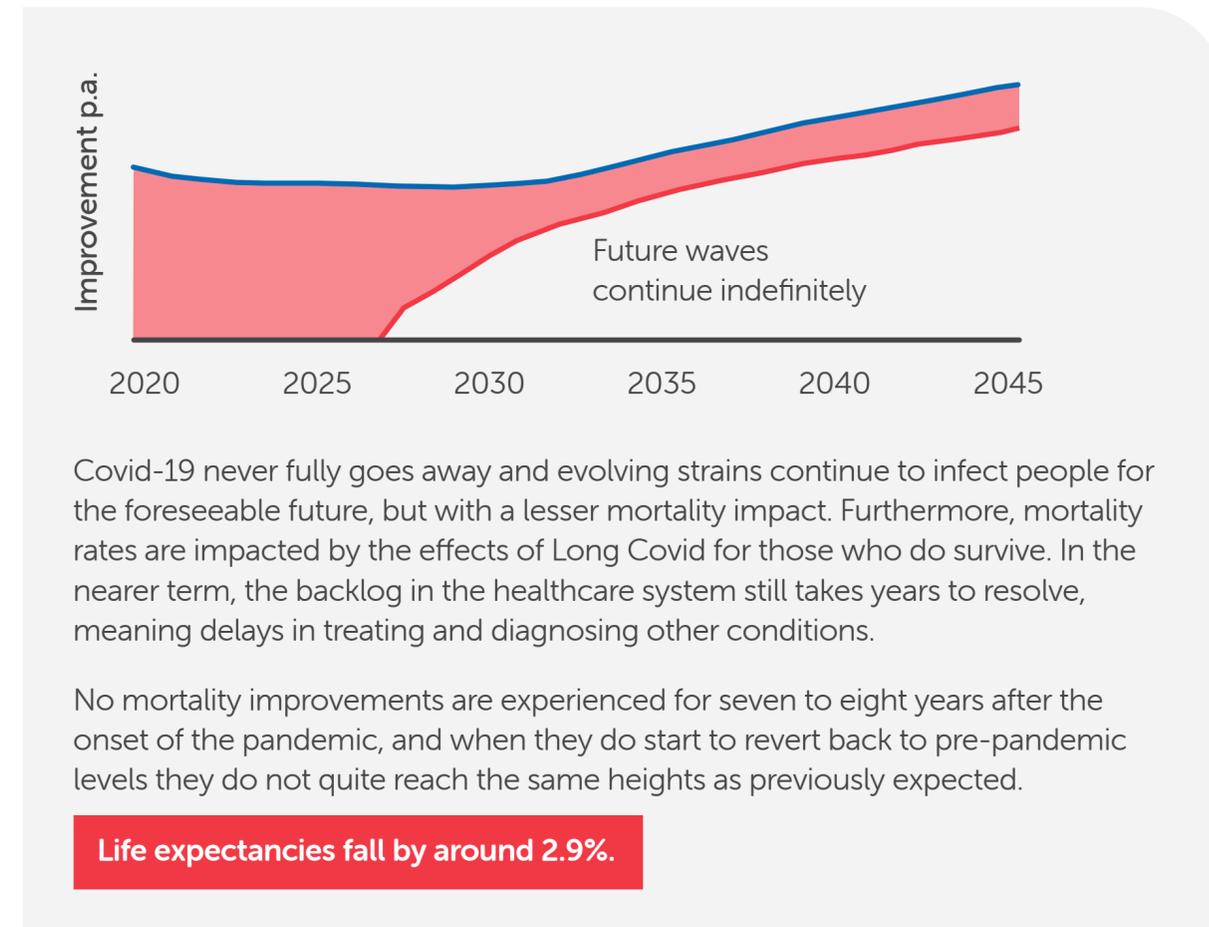
— Pre-pandemic expectations for improvements in mortality over time. The line initially follows mortality improvement trends prior to the pandemic, before converging to a long-term expectation of future improvements (assumed to be 1.5% p.a. in these illustrations).

— The black line represents the 2020 Covid-19 baseline. This shows no further improvements in mortality in line with experience in 2020.

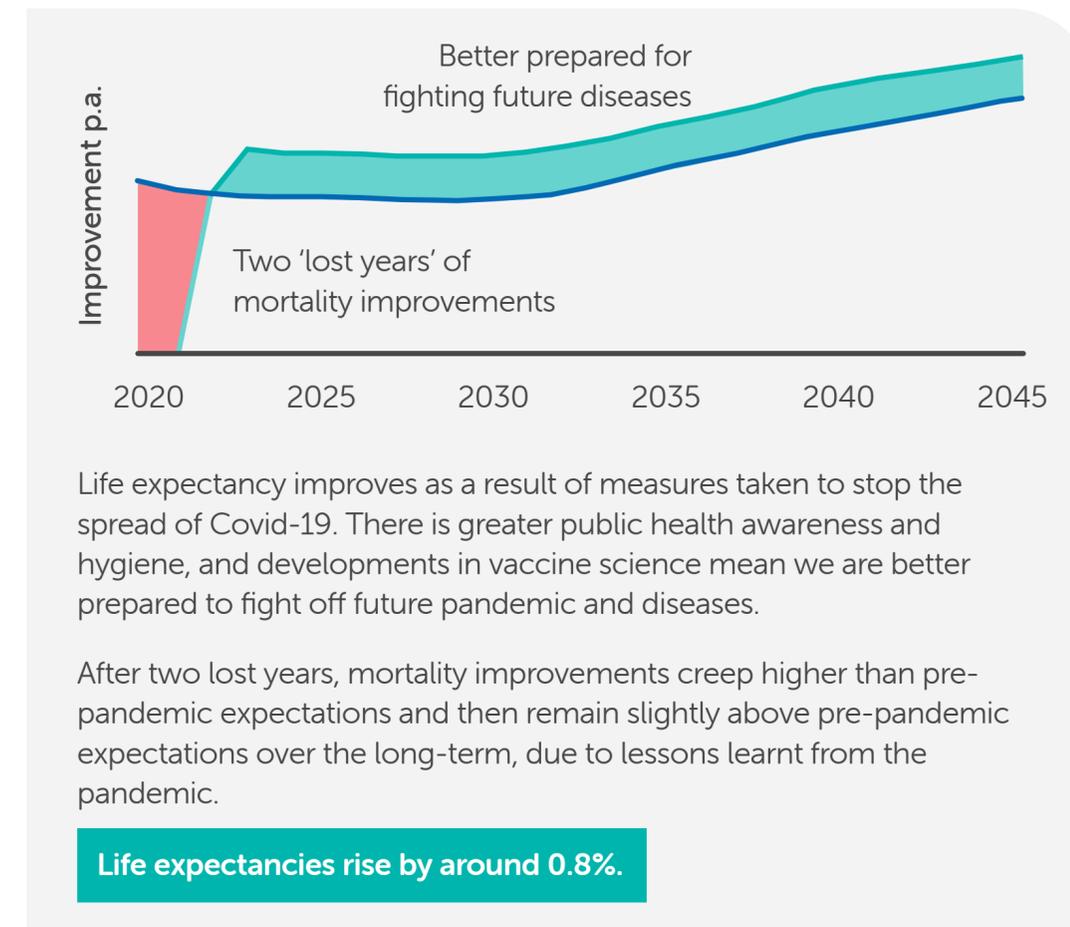
■ Difference in improvement rates versus illustrative pre-pandemic expectations for each scenario. The larger the shading, the greater the impact on future life expectancies.

Red shading indicates how overall mortality has increased relative to pre-pandemic expectations; green shading (as seen in Scenario 4) indicates how relative mortality has decreased.

Scenario 3 – Covid-19 is the new flu



Scenario 4 – Good habits from the pandemic



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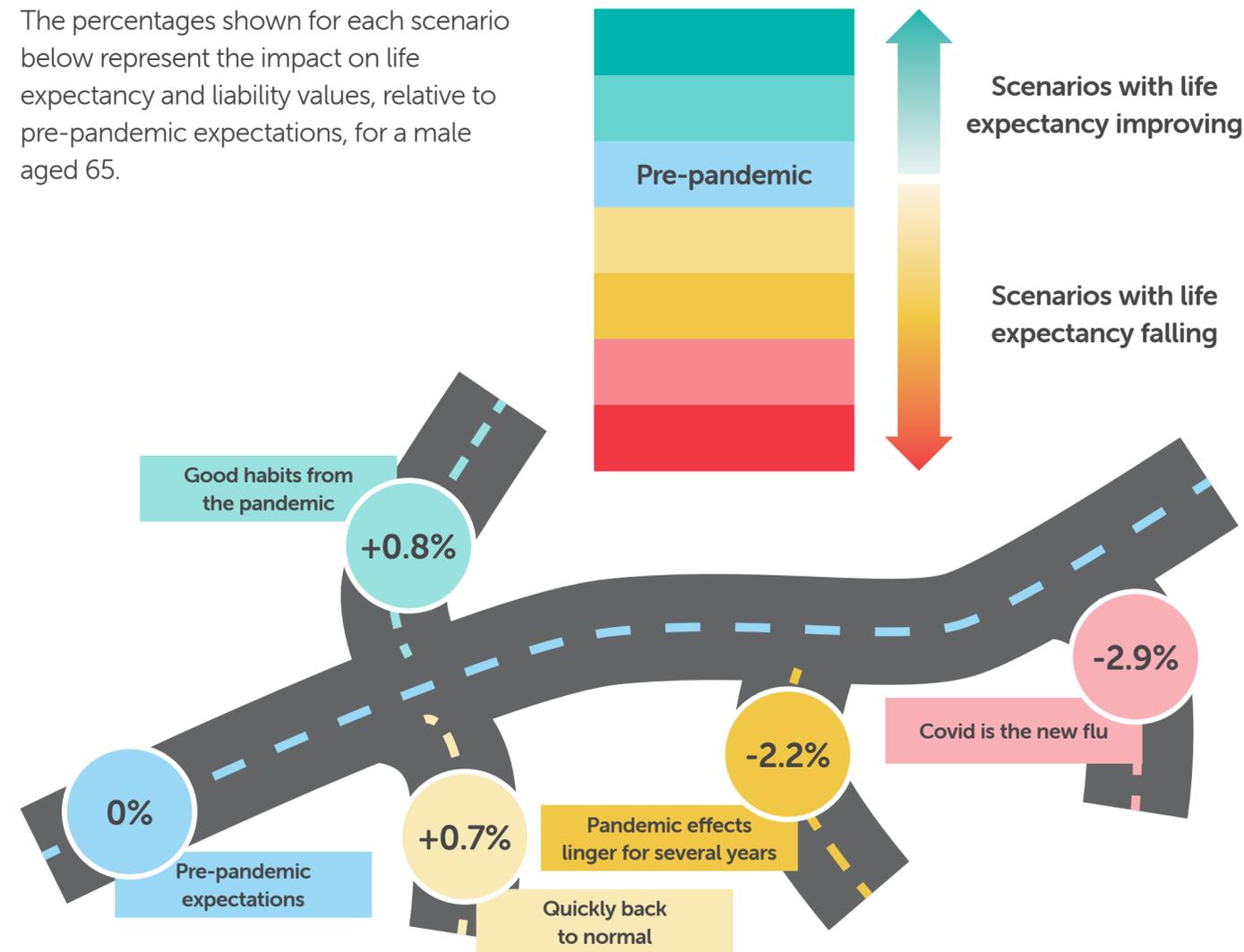
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How life expectancies and liability values might change versus pre-pandemic expectations

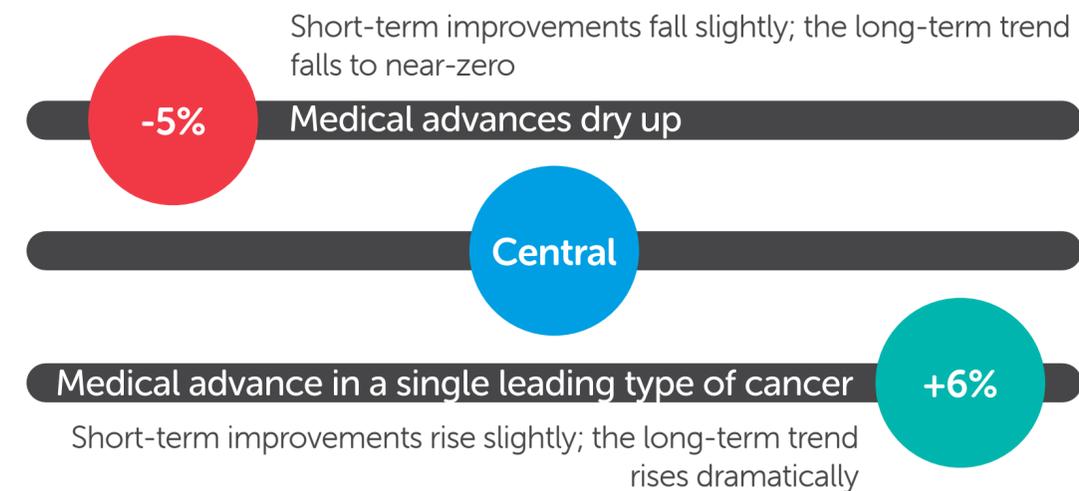
The percentages shown for each scenario below represent the impact on life expectancy and liability values, relative to pre-pandemic expectations, for a male aged 65.



Other sources of uncertainty

Even in a world without Covid-19, there was plenty of uncertainty regarding future mortality improvements, particularly surrounding breakthroughs in medical treatments (or lack thereof). These sources of uncertainty still remain now and provide a context in which to consider the scenarios above.

We have considered plausible scenarios for medical advances in the future, which might serve as reasonable bounds of uncertainty in future mortality improvements. The impacts on life expectancies are shown below and are considerably higher than those expected under the Covid-related scenarios above.





Impact on the 2022 valuation

There is significant uncertainty around how life expectancies will change into the future when considering the scenarios above. There are clearly a large number of factors which will drive the long-term direction of mortality improvements. This requires us to take a pragmatic approach when setting the assumption and parameters of the future improvements model of mortality.

Under the current BW approach, we set all demographic assumptions on a best-estimate basis, which essentially means that the assumptions are neither cautious nor optimistic. We build all additional risk and uncertainty into the future investment return assumption (discount rate) via a prudence adjustment. This simplifies our approach when setting all other assumptions (including mortality) and allows us to pick assumptions which best reflect the underlying data and analysis.

At the 2022 valuation, we will not be changing this approach so there will be no extra allowance for uncertainty in the mortality assumptions.

The impact the Covid-19 pandemic had on each fund has been assessed as part of our longevity analysis and will inform the mortality assumptions used for the 2022 actuarial valuation.

Please note that our analysis relies on the accuracy and completeness of the data we have used. While we have carried out a number of reasonableness and consistency checks on the data, and believe it to be fit for purpose, we have not carried out full valuation checks. The analysis makes the underlying assumption that data for the recent past is a good guide for the future. However, this may not be the case, particularly if the Covid-19 pandemic results in long-term changes to longevity rates.

Hopefully this briefing provides you an insight into the current uncertainty surrounding the future of mortality improvements and how we have considered this when setting the assumption at the 2022 valuation.



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:

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