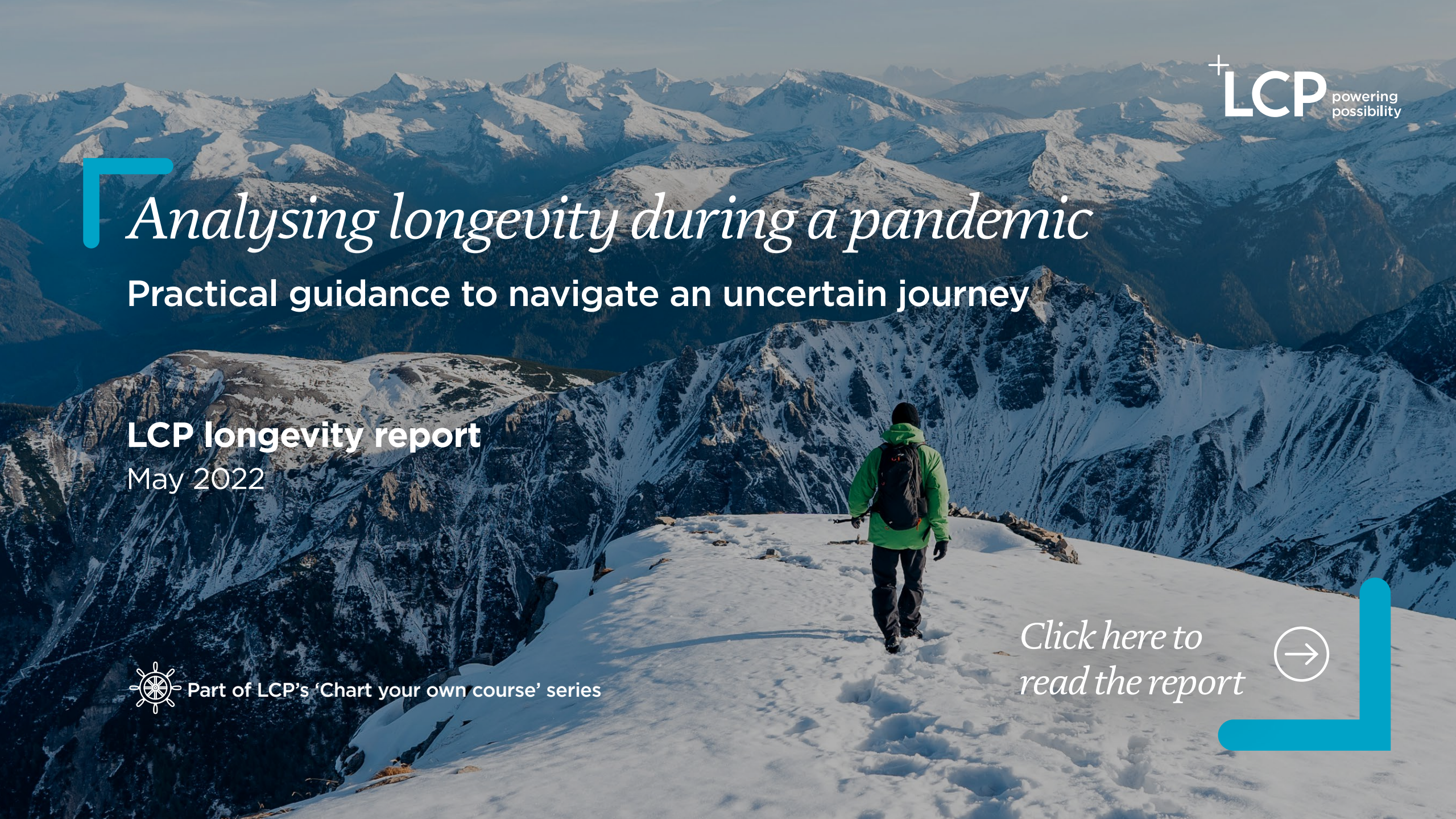


Analysing longevity during a pandemic

Practical guidance to navigate an uncertain journey

LCP longevity report

May 2022

Part of LCP's 'Chart your own course' series

Click here to read the report

Welcome to LCP's latest Longevity report

These are challenging times, not least for estimating how long individuals are likely to live. This creates difficulties for both trustees and sponsors for managing their defined benefit pension schemes.

In this report we analyse recent trends in mortality and how they might affect defined benefit pension schemes, take a look at what might happen in the future, and set out some practical actions you can take.

This is our 6th report tracking longevity trends and the impact on defined benefit pension schemes.

Chris Tavener
Partner, Head of Life Analytics

Michelle Wright
Partner, Head of Pensions Strategy

The impact of the Covid-19 pandemic has introduced more focus on mortality assumptions whilst creating significant uncertainty around longevity trends. This could be compounded by the surge in the cost of living, likely to have an adverse impact on life expectancies, and widening the current health and life expectancy inequalities with the UK.

At the same time, mortality assumptions are becoming more important as pension scheme trustees and corporate sponsors look to de-risk their investment strategies and establish long-term journey plans. For many pension schemes longevity is now their largest outstanding individual risk and for some it dominates the scheme's overall risk profile.

To address these challenges, more judgement is required on the direct and indirect impacts of the pandemic. We feel it is useful to incorporate a range of experts' views, such as from both actuaries and epidemiologists within LCP, to help trustees and sponsors set mortality assumptions. To manage the uncertainty, we advise stakeholders on the increasing array of tools to monitor and address their exposure to longevity risk.

On top of the pandemic and general uncertainty, the general slowdown in the increase to projected life expectancies raises implications for the planned rise to the UK state pension age, which not only has consequences for members of defined benefit pension schemes, but the general public. For example, there will increasingly be a gap between pension scheme retirement ages and state pension ages, and we may as a result see greater use of 'bridging pension options' designed to fill that gap.

Actions for you

Future longevity trends are unpredictable. Key actions for trustees and sponsors of defined benefit pension schemes include:

- Understand how your scheme's membership has been affected over 2020 and 2021 by the pandemic and how material it is to the scheme's financial position.
- Consider the characteristics of your members to see if they are more or less likely to be affected in the future, as different adjustments may be appropriate for different schemes and need to think carefully given potential implications. This approach is supported by the Pensions Regulator's recent DB funding statement, with reductions in liabilities of up to 2%, unless accompanied by strong supporting evidence.
- Incorporate a range of experts' views, such as from both actuaries and epidemiologists, to help you understand mortality trends and how these might impact your scheme's membership.
- Review how longevity risk fits into your pension scheme's overall risk profile and how best it can be monitored, managed, and allowed for in your estimated funding positions.

Please contact your usual LCP contact or one of LCP's longevity/health experts to explore how we can help you.

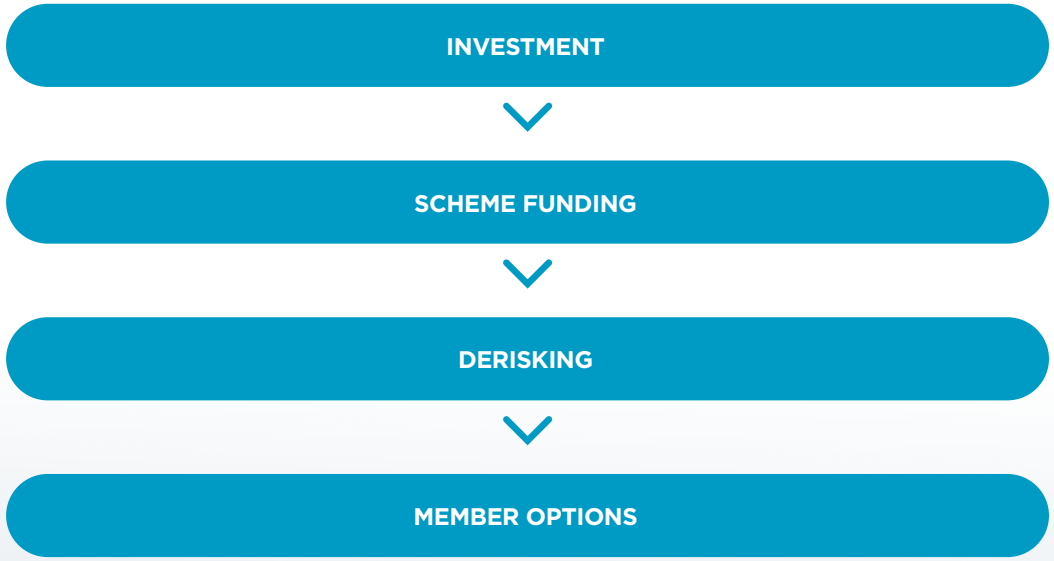
Summary and Key findings

Our key findings are:

- **Modest impact so far on pension liabilities due to mortality spikes**: The Covid-19 pandemic caused high spikes in mortality over both 2020 and 2021. However, the impact on most pension scheme liability calculations so far due to these spikes was relatively modest, with the potential future impact on long-term longevity trends more important.
- **Reduction in life expectancies due to ongoing disruption to health and social care:** There are fundamental issues, such as delayed diagnoses for chronic diseases, that indicate that our health and social care could be adversely impacted for several years due to the hangover of the pandemic, justifying a reduction in life expectancies assumed by pension scheme trustees and sponsors.
- **Pandemic continues to affect different groups of the population differently:** The pandemic continues to affect different groups of the population differently, albeit to a lesser extent than for the first wave in April 2020.
- **Surge in cost of living and fuel poverty could widen life expectancy inequalities:** There is already a wide range of life expectancies in the UK, with those living in areas with lower incomes having lower life expectancies and experiencing lower improvements. We can reasonably expect these cost of living rises to lead to a widening of these current health and life expectancy inequalities within the UK.
- **Low flu cases potentially masking very low mortality rates for 2022:** Mortality rates for 2022 so far are similar to the pre-pandemic levels in 2019. We speculate that when circulating flu levels return to more traditional rates this may have material impacts on winter excess deaths.
- **Expert advice required to adjust mortality models that have swollen in complexity:** The CMI Mortality Projections Models, used by almost all trustees and sponsors in the UK, have swollen in their complexity and sophistication requiring more expert input, but what is important is how the assumed life expectancies change depending on how the models are parameterised.
- **Proposed schedule of state pension age rises is too aggressive for many:** The government's plan to increase the state retirement age from 67 to 68 was no longer supported by the actuarial evidence, even prior to the pandemic. The drop in life expectancies using ONS' latest projections means that for all deprivation groups the proposed schedule of pension age rises is too aggressive. The impact of Covid-19 should trigger a reassessment of this increase, particularly as it disproportionately impacts less well-off members of society who typically suffer higher mortality rates.
- **Longevity de-risking pricing at its most competitive level in recent years:** There is a wide range of tools for pension scheme trustees and sponsors to measure, monitor and manage longevity risk, and many schemes are likely now placing more emphasis on longevity in their overall risk assessments. Despite the uncertainty, longevity risk pricing for longevity swaps and buy-ins/outs is at its most competitive level in recent years, driven by high levels of competition in the reinsurance market.

Why is your assumption for mortality important?

Adopting up-to-date mortality assumptions which allow for the latest trends in life expectancies may have the following important implications for your scheme:



Overview

p03
SUMMARY AND KEY FINDINGS

p05
UNDERSTANDING MORTALITY DURING THE COVID-19 PANDEMIC
Chris Tavener, Head of Life Analytics

p10
WHAT COULD THE POTENTIAL MORTALITY LEGACY OF COVID-19 BE?
Dr Jonathan Pearson-Stuttard, Head of Health Analytics

p12
REPERCUSSIONS OF INEQUALITIES IN LIFE EXPECTANCIES FOR STATE PENSIONS
Steve Webb, partner and former pensions minister

p15
TAILORING MORTALITY PROJECTIONS TO YOUR SCHEME'S CIRCUMSTANCES,
Ben Rees, Senior Consultant in LCP's Life Analytics team

p17
ARE YOU CONSIDERING LONGEVITY RISK WITHIN YOUR STRATEGIC JOURNEY PLAN?
Ken Hardman, partner in LCP's de-risking practice

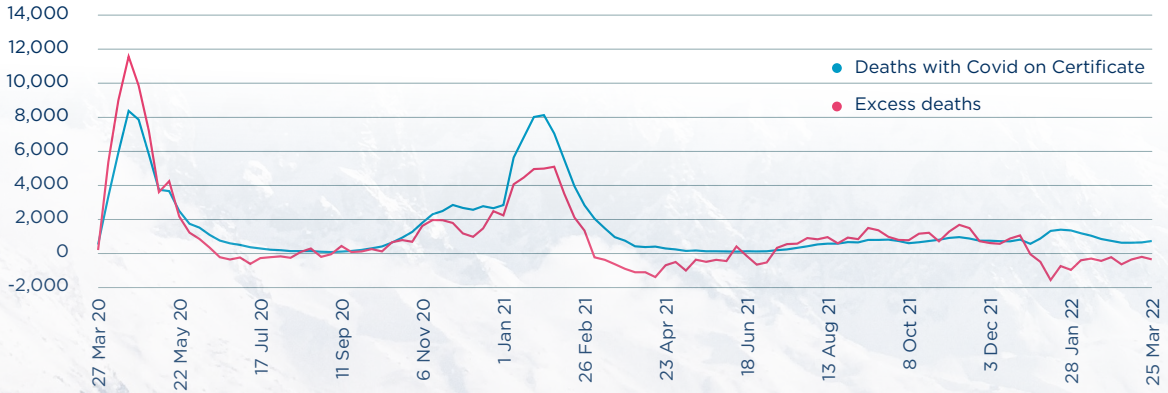
p19
CONTACT US

Understanding mortality during the Covid-19 pandemic

by Chris Tavener, Head of Life Analytics

The impact of the Covid-19 pandemic on mortality rates has been extremely variable over the previous two years. The chart below shows number of deaths with Covid-19 recorded on the person's death certificate (blue line) and the number of excess deaths (pink line) for each week since the start of the pandemic. The first wave in spring 2020 can clearly be seen. We can also see that 2021 was a year of two halves - with a large wave of excess deaths early in the year, with the second half being less severe but with a low but persistent number of excess deaths. However, since the start of 2022, the two measures have notably diverged, and there have been far fewer excess deaths over the first quarter of 2022.

Weekly excess deaths and deaths with Covid-19 on death certificate



Source: Office for National Statistics

The absolute financial impact of the number of excess deaths over 2020 and 2021 has been modest for most pension schemes, with liability values typically falling by less than 0.5% due to the elevated level of deaths of members seen so far. What will be more financially significant is the impact on long term longevity trends relative to the assumed trends prior to the pandemic.

Expected deaths each week were calculated by the Office for Health Improvement and Disparities for different subgroups, and allows for trends over time, and seasonal effects. Excess deaths is the difference between actual deaths and expected.

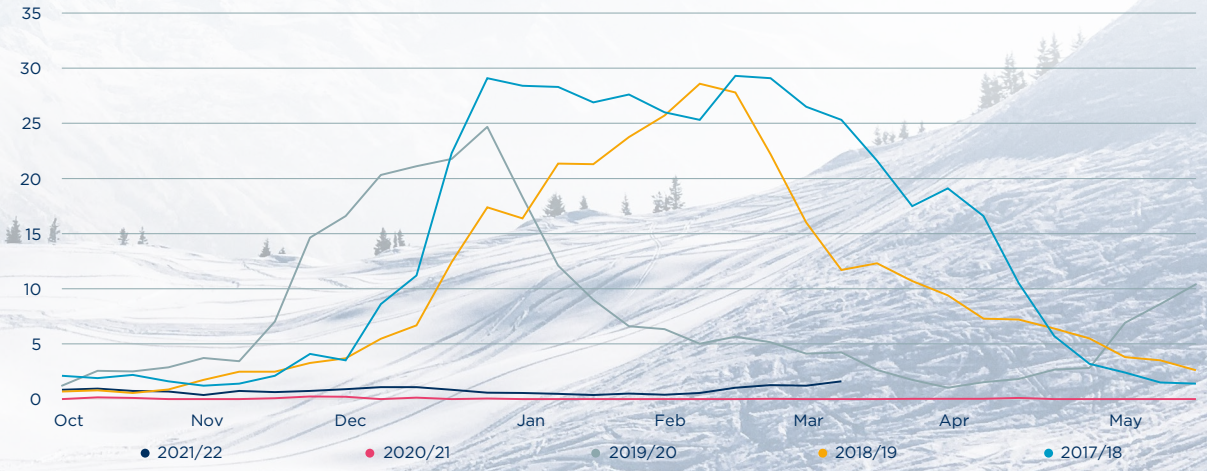
Is the lack of flu deaths temporarily masking low mortality rates in 2022?

We are seeing mortality rates for the first few months of 2022 back close to the low levels previously seen in 2019. Understanding the reasons will be insightful for setting assumptions and managing a pension scheme in the future. A key issue will be to decide if this change is temporary - say due to frail people dying earlier in the first two waves - or is it more of a permanent shift back to pre-pandemic levels of mortality.

We will need more information to confirm the reasons, but one potential issue to keep an eye on is that extraordinarily few people are testing positive for flu this year, which could mask any conclusions on the new level of mortality. There could be a negative impact when flu returns in future winters alongside an endemic Covid-19. The chart below shows the percentage of positive tests for influenza in England over the previous five winters.

The rates over 2020 and 2021 were extremely low, perhaps suppressed by the impact of Covid-19 and the change in people's behaviour. Fewer positive tests for a disease that normally results in around a thousand deaths per week over winter could be accounting for, at least partially, the low mortality rates seen so far over 2022. We will need to wait until beyond the flu season to get a clearer picture of whether this is masking an underlying higher trend.

Percentage of tests for influenza in England that were positive



Source: UK Health Security Agency

How has the pandemic affected your pension scheme members?

It is necessary to identify both the initial trends, but also how these have evolved so we can better understand the outlook to help trustees and sponsoring companies manage their defined benefit pension schemes.

There has been significant analysis published on the impact of Covid-19 on different subsets of the population. Indeed, we included a substantial amount of analysis in our 2021 longevity report of excess deaths by region, population density, deprivation quintile, sex and age.

Looking forwards, it is important to consider whether these trends have continued, to what extent the direct and indirect impacts of the pandemic are continuing and what that means for your pension scheme.

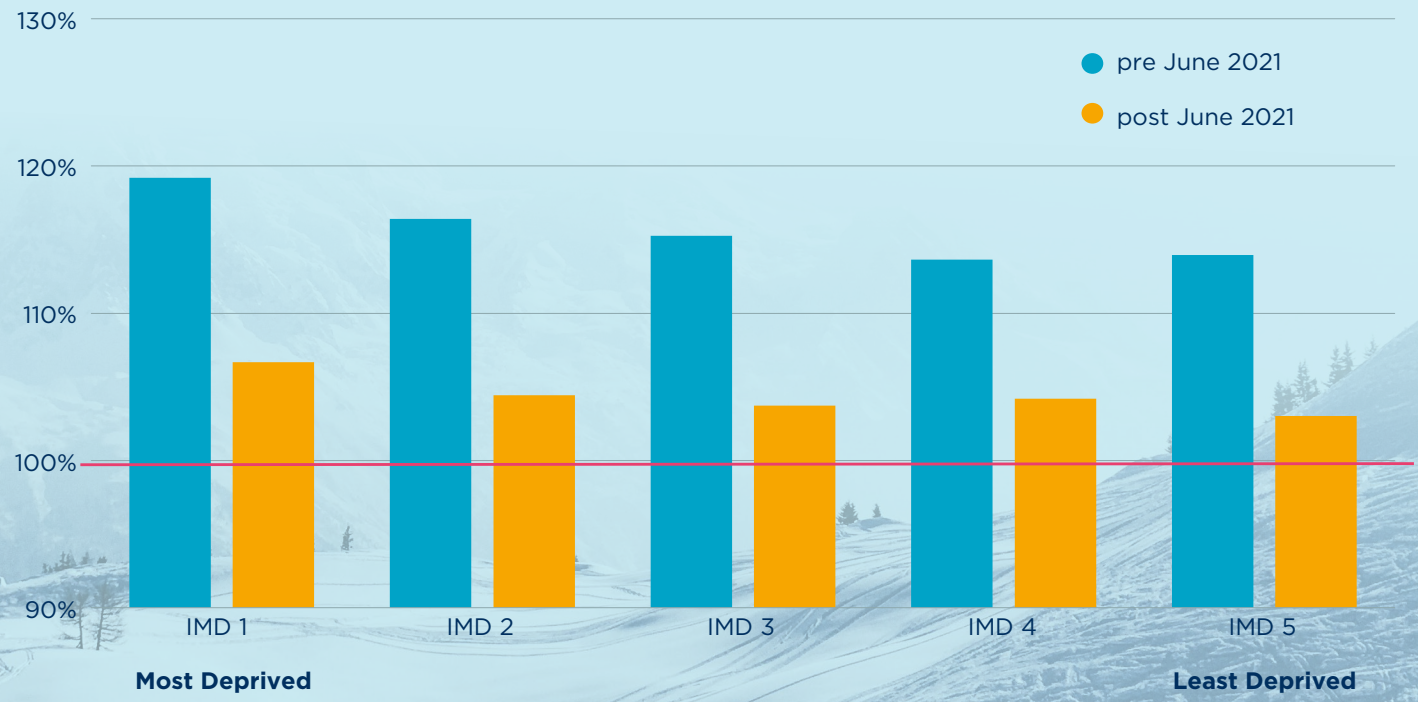
For this purpose, we have compared the level of excess deaths (actual deaths vs expected) in England before and after the end of the second wave, which we have taken as 1 June 2021, when arguably life had started to return to relative "normality" and we are now "living with Covid" - no lock downs, the roll-out of the vaccination programme was well under way, sport and entertainment events had reopened, office workers had returned, and many of the international travel restrictions had been removed.

Variation in mortality rates by deprivation

Variation in mortality rates by deprivation

The below chart shows the ratio of the actual number of deaths in England to the expected number of deaths since the start of the pandemic, split before and after the end of June 2021: if the bar is above the 100% line then there are excess deaths compared to expectations.This has been attributed to a bias of those individuals living in more densely populated areas and having jobs that meant they were less able to isolate when the pandemic first hit. The impact can be seen in the below chart, where there were proportionately more deaths in the most deprived areas prior to June 2021. However, post June 2021, the ratios are lower for all levels of deprivation, and the differences across the areas is now less noticeable.

Mortality rates by Index of Multiple Deprivation quintile pre and post June 2021, compared to pre-pandemic levels



Source: Office for Health Improvement and Disparities

How have pension schemes fared compared to the general population?

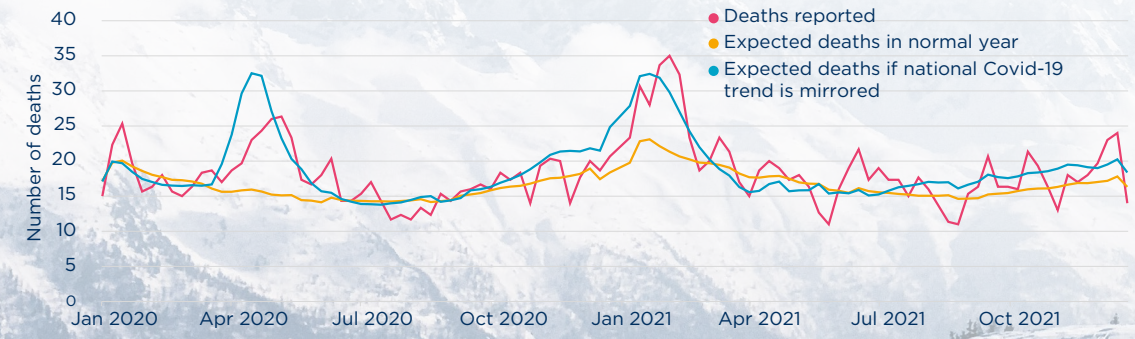
Perceived wisdom is that pension scheme memberships are generally weighted towards groups with longer life expectancies and lower mortality rates – however, the impact depends on the demographic profile of the scheme's members.

To get an insight on whether pension scheme members have been affected more or less than the general population, we have looked at the aggregate mortality experience of around 80 defined benefit pension schemes that LCP provides administration services for. We have observed that:

- As for the general population, we saw a material increase in the number of deaths we were notified of in the first and second waves (pink line) broadly mirroring the general population.
- After the second wave (winter 2021), the number of deaths is broadly in line with the general population (pink line generally in line with blue line).

For this mixture of schemes, the increase in aggregate deaths is broadly in line with the increase within the general national population.

Number of deaths in LCP administration schemes compared to expected level, and adjusted for coronavirus



Source: LCP

Analysis by the CMI (presented in Working Paper 158 published in December), for a different dataset of pensioners of defined benefit schemes they analysed, also showed a sharp peak in March, April and May 2020, corresponding to the first wave of the pandemic. However, the increase in mortality between 2019 and 2020 appeared to be lower than in the general population.

CASE STUDY

A common question trustees and sponsors ask us is how the members of their pension scheme have been affected by the pandemic, and what are the implications for the future.

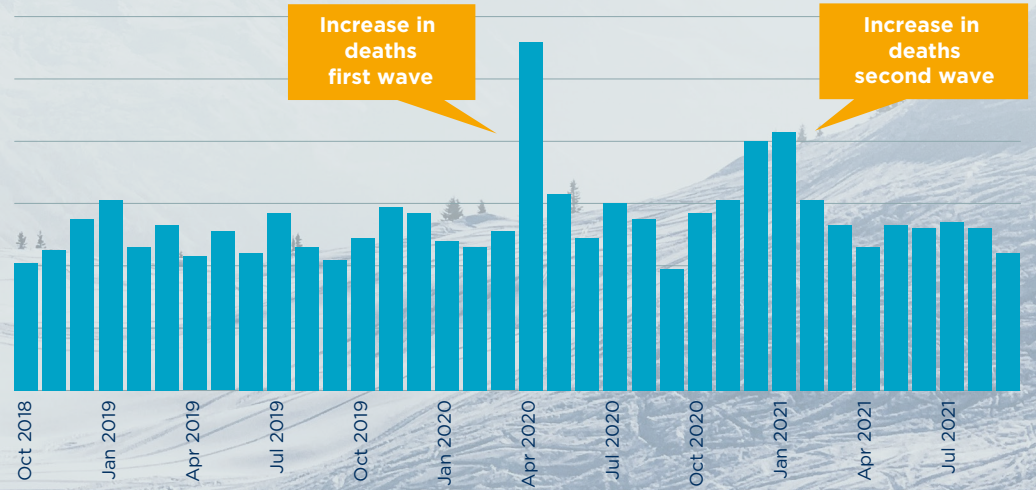
For one large company we advise, this was particularly important to understand as, due to the scale of the scheme, it was a material consideration for the Company's accounts. This also made it a natural area for the Company to lead initial analysis.

This was a large scheme spread widely across the UK and a range of socio-economic demographics.

As a whole, we saw that the scheme experienced typical mortality patterns prior to the pandemic, with clear peaks during the winter months when mortality is higher (eg due to the flu). We also saw that the members experienced an extreme mortality peak during the first wave in April 2020, and elevated rates during the second wave in December 2020, before falling back to more normal rates.

We concluded that the scheme had been affected in a similar way to the national population, and based on that evidence and the views of our Health Analytics team on long term impacts, could reflect national trends and influences when setting future mortality assumptions. However, our demographic profiling enabled us to identify various groups of members with different characteristics, so we performed this analysis for each category and derived a category specific mortality assumption for each.

Number of deaths each month



What does this mean for selecting mortality assumptions?

In light of the uncertainty of Covid-19 on mortality trends, how can pension scheme trustees and sponsors appropriately set mortality assumptions? We summarise some key principles below:

- Mortality rates were very high over 2020 and 2021 but assuming these rates will continue in the future is likely to materially overstate the impact of Covid-19 on future mortality assumptions.
- The degree of any allowance for the lasting impact of the pandemic will depend on your views for how long the residual direct and indirect effects of the pandemic will last, and their severity. Obviously, there is a lot of uncertainty, so any change is subjective and judgement is required.
- The illustration on the right gives you a feel for the sensitivity for the change to the value of liabilities for a typical scheme. It assumes a 5% increase in mortality rates, equivalent to 30,000 excess deaths in the UK.
- In our view, there are factors pointing to a strong likelihood that a modest increase in mortality rates will continue for a number of years, given the wider indirect impacts of the pandemic on the nation's general health, habits and the pressures on the healthcare system. On balance, we think it is reasonable to allow for lower life expectancies allowing for the residual direct and indirect effects of the pandemic, typically from 0% up to a 2% reduction in value of liabilities, and this is supported by the Pensions Regulator's recent DB funding statement.
- As we have seen, the pandemic has had a different impact on different subgroups of the population. Arguably, everyone will be affected to some extent, but perhaps those schemes that have members of above average affluence will be more resilient, and vice versa. It is important to consider the specific characteristics and experience of your scheme, as this may materially influence the choice of assumption.

There is inevitably greater uncertainty when setting mortality assumptions than before the pandemic. Trustees and sponsors should ensure they have considered a range of potential scenarios and their potential impacts in order to make informed decisions, and to set mortality assumptions that are appropriate for the purpose they are being used.

30,000 excess deaths pa in UK (5% increase in mortality rates)

HOW LONG WILL RESIDUAL IMPACT OF PANDEMIC LAST?

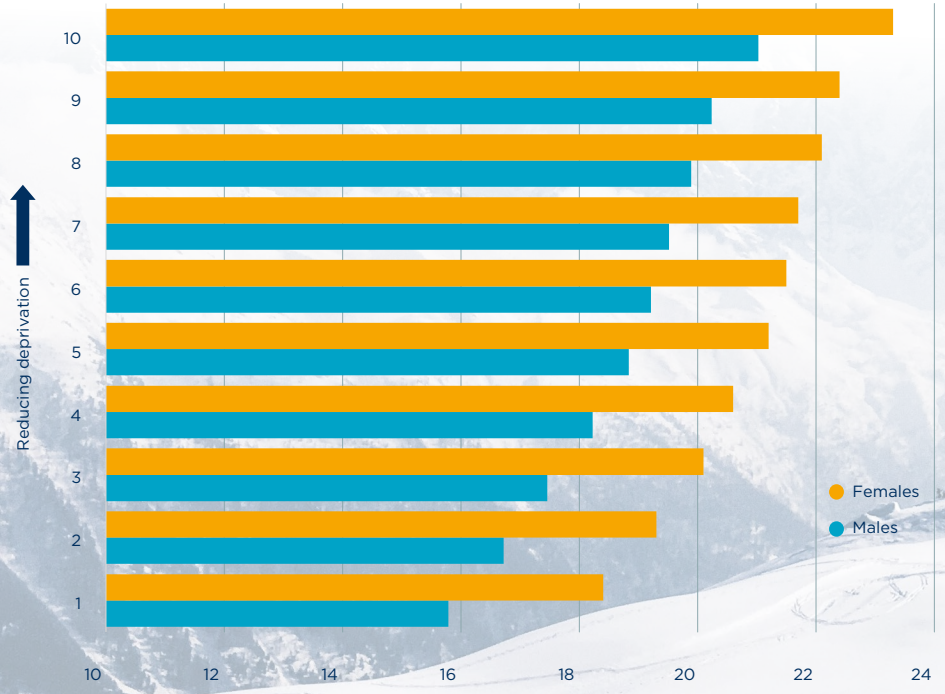
3 YEARS	10 YEARS	FOREVER
The repercussions of the direct and indirect impact of the pandemic are temporary, and we get a reasonably swift shift back to prepandemic assumed mortality rates	Mortality rates are elevated for an extended period due to indirect impacts such as changes in the health-seeking behaviour of individuals, patients unable to access usual care, chronic diseases being diagnosed later and individuals living in poorer health for longer while waiting for elective procedures	The repercussions of the pandemic last forever, with mortality rates elevated permanently compared to pre-pandemic expected levels
 Approx Liability impact: **-0.1%**	 Approx Liability impact: **-0.5%**	 Approx Liability impact: **-2%**

What could be the ramifications of the surge in the cost of living?

It's not just Covid-19 to think about: we are currently seeing an unprecedented rise in the cost of living, particularly for the cost of energy and food. This will undoubtedly have adverse ramifications for the health and wellbeing for many, particularly hitting those who are more vulnerable than most.

There is already a wide range of life expectancies, with those living in areas with lower incomes having lower life expectancies and experiencing lower improvements. We can reasonably expect these cost of living rises to lead to a widening of these current health and life expectancy inequalities within the UK. In addition, pressures on real health care spending could have wider implications for all. This uncertainty compounds the impact of the pandemic.

Life expectancy at age 65 by Index of Deprivation decile in England 2016 -2018



Source: ONS

- Guidance issued by Public Health England (PHE) in January 2019 states "living in a cold home has significant and demonstrable direct and indirect health impacts, with strong evidence that shows it is associated with poor health outcomes and an increased risk of morbidity and mortality for all age groups".
- Issues of fuel poverty and living in a cold home can lead to a wide range of health problems, including respiratory diseases and mental health issues. Analysis by WHO in 2011 suggests 30% of Excess Winter Deaths are due to living in a cold home, and a report by PHE in 2014 quotes sources that estimate 10% are directly attributable to fuel poverty.
- According to data published by the ONS, there have been around 300,000 Excess Winter Deaths in England & Wales over the 10 years to 2019. This averages out at 9,000 deaths per year from living in cold homes and 3,000 deaths due to fuel poverty based on these estimates. Fuel poverty charity National Energy Action (NEA) says the soaring energy prices means the number of UK households in fuel poverty will also soar from 4 million to 6.5 million over the six months to April 2022.

The surge in the cost of living, and the inevitable increase in the number of people, including members of defined benefit pension schemes, forced into fuel poverty, is likely to have adverse ramifications on their health and wellbeing, particularly the most vulnerable.

What could the potential mortality legacy of Covid-19 be?

Dr Jonathan Pearson-Stuttard, Head of Health Analytics

The impact of Covid-19 on mortality, specifically excess deaths, can be broadly split into three categories: direct impacts; indirect impacts; and wider social and economic impacts:

- **Direct impacts** represent individuals contracting the virus and dying from the disease.
- **Indirect impacts** represent excess deaths due to multiple stresses on the health system itself (as seen for instance in disrupted care pathways, workforce absence, ambulance waiting times and the ever-growing elective waiting list), or changes in the health-seeking behaviour of individuals.
- **Economic impacts** relate to the effects that wider social and economic changes will have on health and mortality in the future. For example, following the 2008 recession, 900,000 more working age people developed chronic conditions than would have been expected in absence of the economic downturn.

Each of these three categories are likely to be felt over different time periods and vary across populations.

Here, we focus on the potential indirect impacts, and highlight the three aspects of national data – excess deaths by place, excess deaths by age, and chronic disease care – that we will be monitoring over the coming months to provide insights into what, if any, the lasting mortality legacy of Covid-19 may be.

Excess deaths by place

Data from the Office for National Statistics (ONS) has consistently highlighted the rise in excess deaths in private homes since the pandemic began, and this increase has persisted even when Covid-19 infections and deaths are very low.

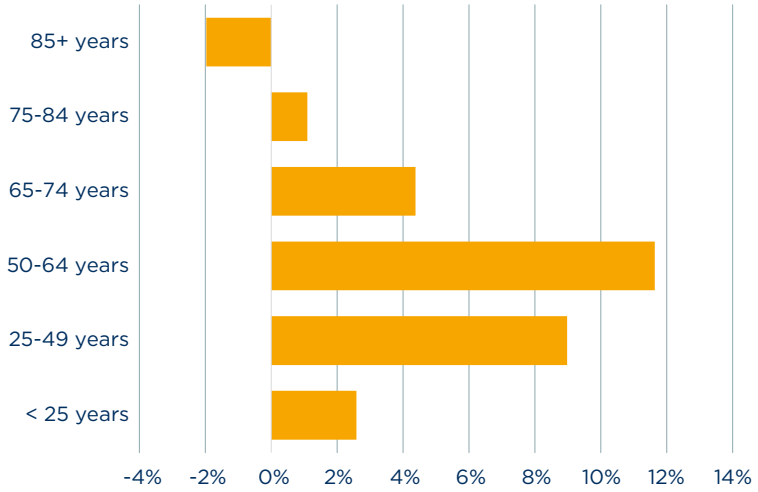
At the same time, deaths in hospitals have been at lower levels than would be expected. Some of the excess deaths at home are likely to reflect an increase in the number of patients towards end of life who are able to fulfil their wish to die at home, with support from their families and clinical teams. However, this does not account for all home deaths, since the ONS found heart disease and stroke to be the largest contributors to excess deaths in the community in 2020. This may suggest that disruptions to care pathways have resulted in patients not getting the care they need quickly enough. If this were to persist, there could be medium- and longer-term impacts on mortality, and these effects are likely to be asymmetric, worsening existing inequalities further.

Excess deaths by age

In the first year of the pandemic, while the number of excess deaths in older adults was greatest there was a similar relative percentage increase in deaths across all adult age groups. That did not continue into the second year, when there were quite different excess death patterns across age groups.

Between 1st April 2021 and 11th March 2022, which was generally after most adults had received at least one dose of the vaccine, we observed 12%, 9% and 5% more deaths in the 50-64, 25-49 and 65-74 year-olds, respectively. In contrast there have been 2% fewer deaths in over 85 year-olds than expected over the same time period.

Excess deaths by age group, from April 2021 to February 2022



Source: Office of Health Disparities

With such a large number of deaths in the oldest groups in the first year of the pandemic, many of those deaths occurring approximately two to five years earlier than otherwise expected, we may now see fewer deaths in that age group for a period due to that population being relatively healthier. Exactly what is driving the persisting excess deaths in middle age (50-64 year olds) groups is at the moment unclear, and while age-standardisation (OHID data reports observed deaths) may explain some of this pattern, as may relatively lower vaccination uptake in this age group compared to the oldest, it is concerning that this group may be experiencing the worst of the indirect impacts, particularly on conditions such as heart disease and stroke.

Chronic disease care

Looking at diagnosis and management of chronic conditions, the scale of the impact of the pandemic is abundantly evident.

- Cancer care, for example, has experienced substantial disruption and is yet to return to pre-pandemic levels. The number of NHS patients waiting more than the six-week target for diagnostic tests, for example, has increased. Before the pandemic, 97% of patients were seen within six weeks, but this dropped to 56% during the first wave and has only picked back up to 71% since then. Alongside this, there are an estimated 32,000 'hidden' cancer patients yet to present for diagnosis. Taken together, mortality for these patient groups in the medium and longer term risks worsening if the situation does not improve promptly.
- There are similarly worrying signs of people living in worse health for longer which, alongside poorer quality of life in the present, may worsen their mortality risk in future. Our recent report – '**Hidden Health Needs – the elephant in the NHS waiting room**' - estimated the total NHS elective waiting lists to be close to 14 million when accounting for the 'hidden need' – those who have not yet joined the waiting list but would have done had the pandemic not occurred.

As we start 'living with Covid-19' and the uncertainty from the cost of living, the potential longer-term impacts on mortality are more uncertain than ever. Analysing emerging data not only on deaths but also on the precursors of mortality will be critical for fine-tuning mortality assumptions and making evidence-informed decisions in the future.

Repercussions of inequalities in life expectancies for State Pensions

by Steve Webb, partner and former pensions minister

Existing policy and the new state pension age review

Under existing legislation, State Pension Age (SPA) is due to rise from 66 to 67 between 2026 and 2028, and from 67 to 68 between 2044 and 2046. However, a slowdown in life expectancy improvements means that, under the government's own methodology, these increases should be deferred for decades. This is even before allowing for the impact of the Covid-19 pandemic.

Current policy is that state pension ages should be set so that people could expect to spend 'up to' one third of their adult life in retirement, with adult life starting for these purposes at age twenty.

The first review on this basis , chaired by Sir John Cridland, was published in 2017. It was accompanied by a statistical analysis by the Government Actuary's Department (GAD) which took the timetable for moving to age 67 as given but suggested that a cap of 33.3% of adult life in retirement would imply a move to age 68 five years earlier than previously planned – between 2039 and 2041. This analysis was based on the Office for National Statistic (ONS) 2014 life expectancy estimates.

In December 2021 the Government announced that it was undertaking a new review of state pension age (SPA). This second review is expected "... to take account of a range of evidence including: life expectancy, socio-economic issues and the future affordability and sustainability of the State Pension". It will be complemented by an updated report from GAD.

Since the first review was undertaken, ONS has published updated population projections based in 2016, 2018 and 2020. Life expectancy at SPA based on the 2018 projections was now around two years shorter than in the 2014 projections.

Previous research by LCP found that sticking to the two-thirds / one third principle would imply delaying the move to 67 and to 68 by more than twenty years compared with the current schedule.

Recent population projections, which show that expected improvements in life expectancy have not materialised, mean that the existing timetable for SPA increases is now too rapid, even based on population averages. And linking to life expectancy of more deprived groups would make increases even harder to justify.

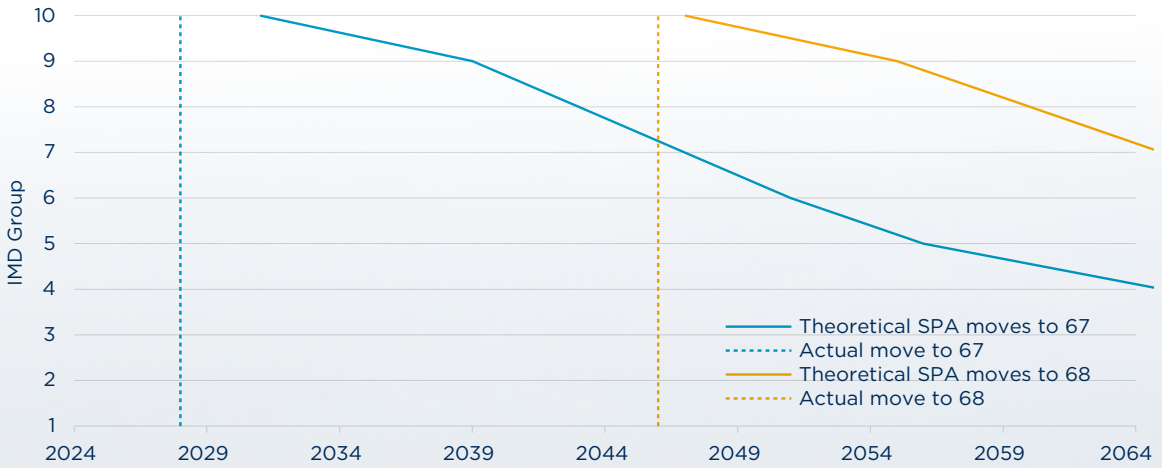
Differences in life expectancies

Data is available from ONS on the life expectancies of different groups as measured by an index of multiple deprivation (IMD). This shows that the least deprived decile are expected to live around 5 years longer than the most deprived.

One response to these inequalities would be for each individual to have their own state pension age, perhaps varying by area or work history. The practical problems of this would however be huge and could also create new sources of unfairness. On the other hand, completely ignoring these differences and pressing ahead with the existing schedule of SPA increases also risks being very unfair to those individuals who may only expect to receive a state pension for a relatively short period – if at all.

We have therefore considered whether a single SPA should be linked to a mid-lower decile of the population as measured by deprivation. This would ensure that, for those individuals who rely on the state pension most, there is a reasonable expectation that an appropriate length of retirement is awarded.

We have examined what the timetable for SPA increases would be if, instead of using population averages, we applied the two-thirds / one third principle to subgroups ranked by deprivation using an index of 'multiple deprivation' (IMD). For example, we consider what state pension age would have to be so that the most deprived ten per cent (IMD Group 1) could expect to spend up to one third of their adult life in retirement and so forth. The results are shown in the chart below, with the actual schedule for state pension age increases (the vertical lines) marked for reference.



As noted above, current legislation indicates a move to age 67 by 2028 and to age 68 by 2046 (albeit brought forward to 2041 in line with the Cridland Review or even to 2039 in line with the Government response to the Cridland Review).

But our chart shows that this is acutely true for the most deprived groups. Looking at the most deprived 40% of the population (IMD Groups 1-4), a rise even to age 67 could not be justified before 2064 if the two-thirds/ one-third principle were to be delivered for this group. A move to 68 could (just about) be justified in the mid 2040s but only for the least deprived ten per cent of the population. For the majority of the population, a rise to 68 should probably be half a century away - and therefore not applicable to anyone already in the working age population.

These results suggest that current plans for SPA increases look extremely aggressive for all but the most prosperous group in society. If the government is serious about looking at 'socio-economic differences', it cannot simply press ahead regardless with the existing timetable.

The drop in life expectancies using ONS' latest projections means that for all groups the proposed schedule of pension age rises is too aggressive.

Levelling up

Our analysis is likely to be highly unpalatable to the Treasury who are almost certainly looking to accelerate the existing timetable for SPA increases rather than row back on the increases which are already in the pipeline. So how could this approach be made to work politically?

One option would be to take account of the Government's 'levelling up' agenda.

The Government has been quite clear that, in its view, Britain is a very unequal society with some areas 'left behind' on a range of indicators. A top political priority is to 'level up' these areas. The Government have set a goal that:

> *By 2030, the gap in Healthy Life Expectancy (HLE) between local areas where it is highest and lowest will have narrowed, and by 2035 HLE will rise by five years*[8]

To fit with the Government's policy objective, one option would be to link SPA to the two-thirds/one-thirds principle for a more deprived group (rather than the population average), meaning that if the Government delivers on its levelling up goal this would facilitate a swifter increase in state pension age.

To get a sense of what this might imply, we have simulated a world in which the gap between the life expectancy of each more deprived decile group and that of the least deprived decile group was reduced by half. The results are shown in the table.

We find that, provided levelling up is achieved to the extent we have assumed, a significantly faster increase in state pension ages would now be feasible for the government. We have previously found that an increase to 67 before 2064 would not be justifiable for the most deprived 40% of the population. But with levelling up the Government could get to 67 by 2062 if it linked the two-thirds / one-third principle to the life expectancy of IMD Group 1 (the most deprived 10%), or by 2047 if it linked to life expectancy for Group 4. Similarly, a move to age 68 – which was previously off the scale for most groups – becomes more feasible, though only satisfying the two-thirds / one-third rule for IMD groups 5 and above if implemented in the mid to late 2050s.

Levelling up could allow the Government to bring forward its planned SPA rises by over a decade

Year brought forwards by "levelling up" by reducing the longevity gap by 50%				
	Theoretical move to 67		Theoretical move to 68	
IMD Group	Unlevelled	Levelled up	Unlevelled	Levelled up
1	After 2064	2062	After 2064	After 2064
2	After 2064	2056	After 2064	After 2064
3	After 2064	2050	After 2064	After 2064
4	After 2064	2047	After 2064	2059
5	2056	2043	After 2064	2057
6	2051	2041	After 2064	2055
7	2047	2039	2060	2053
8	2043	2037	2055	2051
9	2039	2035	2047	2047
10	2031	2031	2044	2044

Conclusions

A single state pension age is a crude tool, leading to big variations between different groups in the proportion of their life they can expect to spend drawing a pension. But multiple state pension ages would create administrative complexity and no doubt create new unfairness.

To reconcile this conflict, the Government could retain the two-thirds /one-third principle but linking it to the life expectancy of a more deprived group rather than the population average. Recent population projections, which show that expected improvements in life expectancy have not materialised, mean that the existing timetable for SPA increases is now too rapid, even based on population averages. And linking to life expectancy of more deprived groups would make increases even harder to justify.

However, we have shown that if the Government were to deliver on its stated goal of 'levelling up', then it would be possible to defend some SPA increases, albeit on a slower timetable than currently planned.

[8]Levelling Up the United Kingdom - GOV.UK (www.gov.uk)

Tailoring mortality projections to your scheme's circumstances

by Ben Rees, senior consultant in LCP's Life Analytics team

The Continuous Mortality Investigation ("CMI") published its latest version in its series of the popular mortality projections, the CMI 2021 model, on 9 March 2022.

What's new for CMI 2021?

The CMI projections are data driven models which effectively assume that the past is a good guide to the short-term future. However, for the past two years the CMI has had to contend with fitting its model to data which is unlikely to bear much resemblance to how mortality rates progress beyond the immediate impacts of the Covid-19 pandemic.

The CMI's response has been to exclude the experience over 2020 and 2021, placing no weight on this experience in its core model.

In our view it is hard to justify ignoring the impact of Covid-19 entirely when setting assumptions for how longevity rates will change over time.

Adjusting the model for Covid-19 experience

The CMI recognises there are a range of views on the impact of Covid-19 and, as for the 2020 model, has provided users with the ability to choose how much weight is placed on the mortality experience of England & Wales in 2020 and 2021, to which the model is calibrated.

The new w2021 parameter allows users to place anything from 0% to 100% weight on 2021 experience, in the same way that the w2020 parameter applies for 2020 experience.

In practice, applying high weightings to these years will significantly skew the results of the CMI model, with significant reductions in life expectancies. The weighting factors are applied to the total mortality rate rather than any concept of "excess deaths" and so has little "real world" interpretation. Nevertheless, it is helpful that the CMI have allowed users a parameter to reflect their own views on how the pandemic may impact future mortality rates.

The LCP Life Analytics team have worked closely with LCP's Health Analytics team to give us an insight into the areas that may be affected, such as NHS funding, cancer diagnosis, advancements in pharmaceuticals etc.

By combining both sets of analyses, we have concluded that the Covid-19 pandemic is likely to have had a net negative impact on life expectancies.

However, there is much uncertainty around the impact of the pandemic and it may be possible to justify other changes depending on your views. We have also concluded that the Covid-19 pandemic has resulted in more uncertainty in future mortality improvements, which could lead some users to include higher levels of prudence, or others to agree contingencies in the event mortality rates do not increase over the medium term compared to pre-pandemic rates.

A typical "best estimate" assumption for the long-term impact of Covid-19 is around a 1% fall in pension scheme liabilities. This broadly equates to using a w2021 factor of 10% for a typical scheme.

Tailoring the CMI model to your scheme's circumstances

Ever since the CMI 2009 model, the CMI has required users to determine their own long-term expected rate of improvement in mortality rates. Over time more parameters have been brought into the "extended" version of the model, such as:

- Smoothing factor ("S")
- Initial rates of mortality improvement ("A");
- w2020; and
- w2021

This additional complexity provides flexibility for users to tailor the model to their needs. However, the increase in complexity in recent years has required additional guidance from advisors to ensure pension scheme trustees and sponsors fully understand and appreciate the implications of different combinations of parameters.

The future of the CMI projection models

The CMI projection model has been widely adopted in the UK and has a huge influence on how many actuaries apply mortality assumptions in practice. However, three issues have emerged over time:

- The models have swollen in their sophistication with many parameters to determine. These parameters can be highly technical and difficult for the typical finance director or trustee to reasonably take a view on – this can contribute to "herding" in the choice of the values of the parameters across the market.
- Users have struggled to move away from "sticky" parameter choices. For example, many users have adopted a long-term rate of improvement of between 1% and 1.5% for over 10 years.
- It is very challenging to update a data driven model in light of the very abnormal mortality experience arising from Covid-19.

For many users, it may be time to kick the tyres on the parameter choices they made some time ago. In our view the impact of the pandemic and choice of parameters is best considered by analysing the core drivers of longevity improvements utilising expert judgement.

Are you considering longevity risk within your strategic journey plan?

by Ken Hardman, partner in LCP's de-risking practice

Many UK defined benefit pensions schemes are now closed, either to new members or to future accrual as well. They have a finite lifespan and are now focussed on how best to ensure they can meet the promises that have been made to their members.

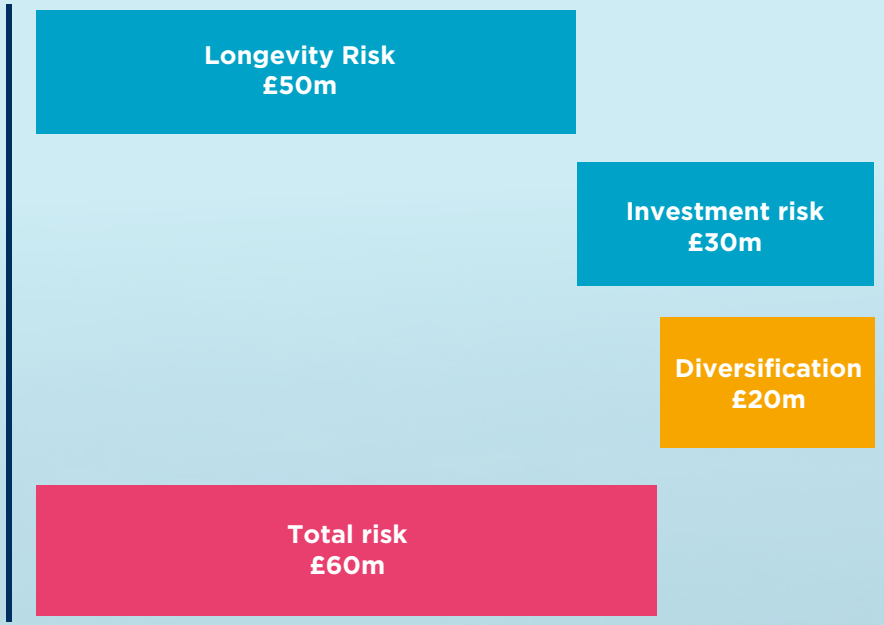
LCP's "Chart your own course" series of reports helps trustees to strategically navigate their scheme's journey.

Schemes are creating plans to reach their long term objectives, such as a low dependency basis or full buy-out. The targeting of such a long-term funding objective for closed schemes is a key plank of the Pensions Regulator's Scheme Funding proposals.

For many pension schemes targeting a low-risk investment strategy, the risk of members living longer is, or will be in the future, their dominant risk and it should be factored into journey planning.

Pension schemes looking to manage their risk budget in the most efficient way will reduce risks in parallel to maximise diversification benefits. However, many schemes either ignore or do not address longevity risk, leaving them with a poorly defined or unbalanced set of risks.

Typical risk profile for £1bn pension scheme with low-risk investment strategy supporting long term funding target.



Longevity risk will likely be the dominant single risk for a low risk pension scheme and can double the total overall risk, even allowing for diversification.

For many pension schemes targeting a low-risk investment strategy, the risk of members living longer is, or will be in the future, their dominant risk and it should be factored into journey planning.

How can you manage longevity risk?

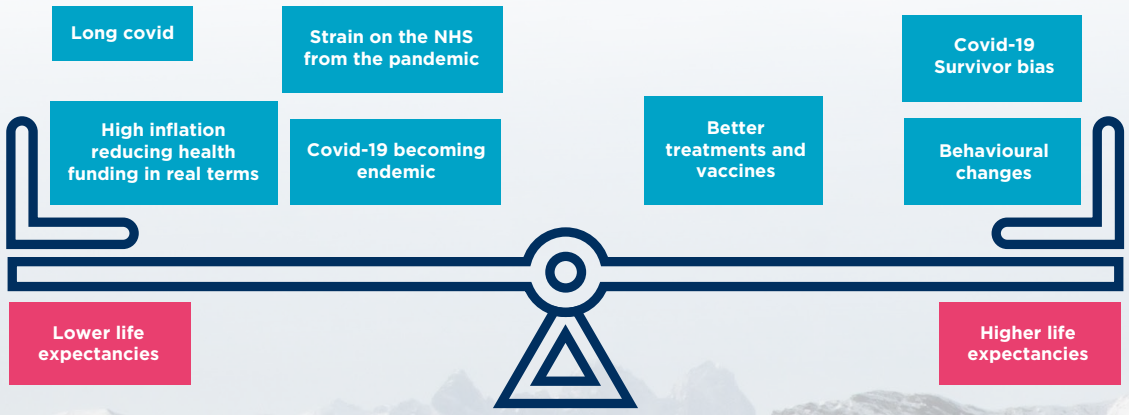
There are two main ways of hedging longevity risk:

- Buy-in transaction with an insurance company. In return for an up-front premium the insurer will agree to meet all pension payments for a defined group of members. This hedges all longevity and investment risks.
- A longevity swap. A reinsurer agrees to pay pension cashflows for a defined group of members while the pension scheme pays the reinsurer an agreed, fixed set of cashflows. This essentially swaps the longevity risk to the reinsurer (in a similar way to an interest rate or inflation swap). This option is mainly available to larger pension schemes, and are typically structured through an insurance intermediary or captive arrangement.

In practice, the cost of hedging the longevity risk is the same under either route. UK life insurance companies reinsure the vast majority of their longevity risk due to the capital benefits under their insurance regulatory regime, so in practice reinsurer pricing determines the ultimate pricing benchmarks.

How is Covid-19 affecting longevity pricing?

While mortality rates increased significantly through the Covid-19 pandemic, reinsurers were initially cautious about passing on pricing adjustments to pension schemes and insurers. Partly this was driven by caution, though there are factors which could cause life expectancies to increase or decrease and insurers were considering which way the balance would tip.



Supply and demand dynamics

While pension scheme demand for de-risking products continues to grow, there are strong supply-side factors putting downward pressure on pricing. In particular:

1. Recent new entrants are providing competition and capacity for longevity reinsurance. There are potentially 15+ reinsurance counterparties actively operating in the market.
2. There is a strong rationale for reinsurers to take on longevity risk to diversify and balance their overall risk profile. Many hold large books of mortality risk from life assurance products (particularly US whole of life assurance) which has been hit by losses from Covid-19. Longevity risk provides an important offset and / or diversifier to this risk.
3. Potential changes to solvency II may allow some UK insurers to hold higher proportions of longevity risk without incurring associated penal capital charges. This may help support market capacity.

Over the longer term, there are questions over ability of the reinsurance market to absorb increasing demand from pension schemes at current pricing levels.

To find out more please see our pensions de-risking report which is out soon.

As the long-term impacts of Covid-19 become clearer, we are seeing reinsurers making up to 2% reductions in their longevity swap pricing

A risk that we are helping trustees to understand as part of their journey planning is the impact of climate change on longevity. New governance requirements mean trustees must establish and maintain oversight of climate-related risks (and opportunities). We envisage climate change affecting future life expectancies in a range of ways, such as through rising temperatures (reducing the number of winter deaths), more extreme weather events (such as heat waves), changes in pollution and ozone levels, and indirect consequences such as limitations on resources for food or healthcare. It is currently unclear which climate change pathway we are on, and as more evidence emerges over the next 5 to 10 years or so, trustees and sponsors will need to move to quantify and address the risk, and update their mortality assumptions appropriately.

Contact us

For further information please contact our team.

Chris Tavener
Partner, Head of Life Analytics
chris.tavener@lcp.uk.com
+44 (0)20 7432 0671

Michelle Wright
Partner, Head of Pensions Strategy
michelle.wright@lcp.uk.com
+44 (0)20 7432 3073

Ben Rees
Senior Consultant
ben.rees@lcp.uk.com
+44 (0)20 7432 0699

Ken Hardman
Partner
kenneth.hardman@lcp.uk.com
+44 (0)20 7432 6629

Jonathan Pearson-Stuttard
Partner, Head of Health Analytics
jonathan.pearson-stuttard@lcp.uk.com

Jill Ampleford
Partner, Head of Trustee Consulting
jill.ampleford@lcp.uk.com
+44 (0)20 7432 6757

Gordon Watchorn
Partner. Head of Corporate Consulting
gordon.watchorn@lcp.uk.com
+44 (0)1962 872745

Steve Webb
Partner
steve.webb@lcp.uk.com
+44 (0)78 7549 4184

Mei Chan
Consultant
mei.chan@lcp.uk.com
+44 (0)20 7432 0672

Clodagh Howe
Analyst
clodagh.howe@lcp.uk.com
+44(0)20 3824 7284

At LCP, our experts provide clear, concise advice focused on your needs. We use innovative technology to give you real time insight & control. Our experts work in pensions, investment, insurance, energy, financial wellbeing business analytics and health analytics.

Lane Clark & Peacock LLP
London, UK
Tel: +44 (0)20 7439 2266
enquiries@lcp.uk.com

Lane Clark & Peacock LLP
Winchester, UK
Tel: +44 (0)1962 870060
enquiries@lcp.uk.com

Lane Clark & Peacock Ireland Limited
Dublin, Ireland
Tel: +353 (0)1 614 43 93
enquiries@lcpireland.com