



# Mortality update

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**isio.**

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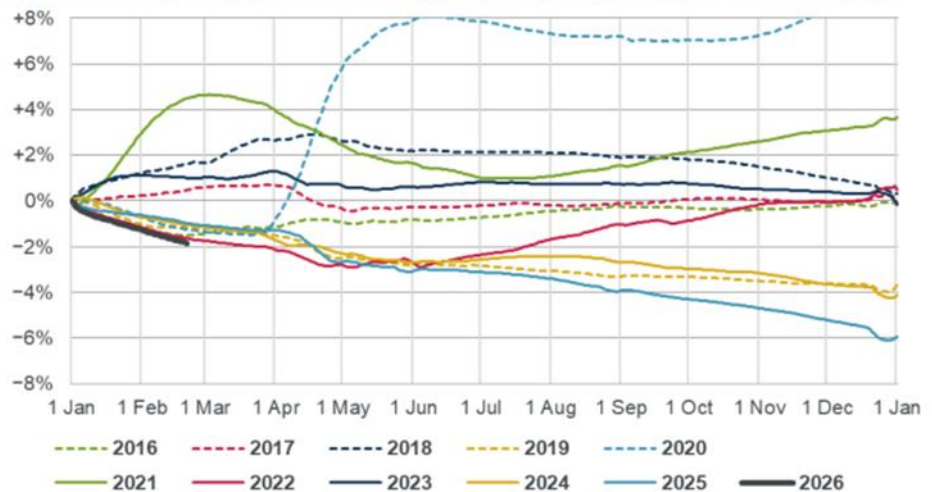
# Summary

This paper sets out Isio's thoughts on future mortality following the publication of the latest actuarial mortality projection model, CMI 2025. The Continuous Mortality Investigation ('CMI') is the body that develops modelling tools that are used by pensions actuaries in setting assumptions. Whilst there are two main building blocks to the mortality assumptions that actuaries use, this paper focuses on the projection assumption, set using the CMI model to predict the future path of mortality improvements. The CMI has said that the CMI 2025 model is a 'business as usual' update following wider changes made to the CMI 2024 model last year.

The main purpose of this paper is to set out a central best estimate view suitable for accounting purposes, amongst others. Isio consultants are encouraged to consider the purpose and scheme-specific nature of this assumption and vary the parameters accordingly. It should also be understood that the views set out in this paper do not consider the potential direct impacts of climate change on life expectancies.

## 2025 experience – a record low year for UK mortality

Chart 2L: Cumulative standardised mortality rate (cSMR) compared to the 2016-2025 average



Source: CMI, based on ONS data

The annual mortality rates in the chart above are being compared to the 2016-2025 average and have been prepared by the CMI using Office for National Statistics ('ONS') data. The higher the rate, the greater the mortality experience (the more deaths) in that year compared to the average.

2025 was a record low year for UK mortality – following on from 2024's experience of similarly low mortality. The experience since 2024 could signify a "new normal" or could reflect the expected result of mortality events in more vulnerable cohorts being brought forwards by the pandemic. This makes forecasting long-term trends based on this near-term data particularly challenging, and even more so when coupled with the fact that trends in mortality continued to be different across different age groups. At the time of writing, 2026 mortality experience is looking similarly low to that of 2025.

## CMI 2025 – a "business as usual" update

The CMI has stated that the CMI 2025 model is largely a 'business as usual' update from the CMI 2024 model with no changes in the methods used in the model this year. The model has however been updated for actual 2025 data.

Given the low mortality experience from 2025 and low mortality experience thus far in 2026, we have adjusted our best estimate life expectancies upwards compared to last year by 3 to 5 months (depending on age). We expect this to lead to around a 1% increase in liabilities.

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Whilst recent experience has been positive, there still remain the significant headwinds that mean our view tends towards the hypothesis that recent experience results from mortality events being brought forwards by the pandemic, rather than this being a new normal of consistent improvement bedding in. In addition, wider global factors remain at play, strains and inflationary pressures on the economy are increasing, and the NHS funding and capacity issues have not appeared to be solved.

There are also potential tailwinds for life expectancies. You may have seen increased attention in the press linking the effect of weight loss drugs (brand names include Mounjaro and Ozempic amongst others) to potential increased longevity. Whilst we recognise the positive effect that these drugs could have on the health of the UK population, there are still potential unknowns in relation to the side effects of and access to these drugs, and whether they will truly impact mortality rather than just morbidity. Therefore, we believe it is too early to take a view on whether their use will materially affect the longevity of the UK population in future.

As the model has just been released it is too soon to know how insurers will reflect the latest model within their pricing basis. We note that insurers have taken a more cautious view in recent years and tend to use different approaches to recognising experience as it comes through rather than waiting for the release of the CMI model. We might therefore expect that current trends are already "priced in" to insurer quotes.

The rest of this paper sets out more detail on the CMI 2025 model parameterisation, as well as the key parameters below.

## Key Parameters

There are a few terms used in this paper that relate to the key parameters used in the CMI model.

- **Long-term improvement rate parameter:** This parameter has existed since the inception of the CMI model and is particularly subjective given it represents the expected rate of mortality improvement many years into the future. The CMI Model effectively generates a progression of changing mortality improvement rates that target achieving the user-defined long-term improvement rate over a defined period of time.
- **Initial Addition ('A') parameter:** The Initial Addition parameter was introduced in the CMI 2018 Model to allow users to reflect their view of differences in improvement rates between the England & Wales population (used in the development of the model) and the population they are interested in (e.g. pension scheme members).
- **Half-life ('H') parameter:** The half-life parameter was a new addition for CMI 2024 in place of the weighting parameter used in previous models. This parameter controls how quickly the effect of a theoretical short-term pandemic mortality shock, or 'overlay', is removed to allow actual mortality experience to set the improvement trend in the model.

# Changes to the CMI 2025 model

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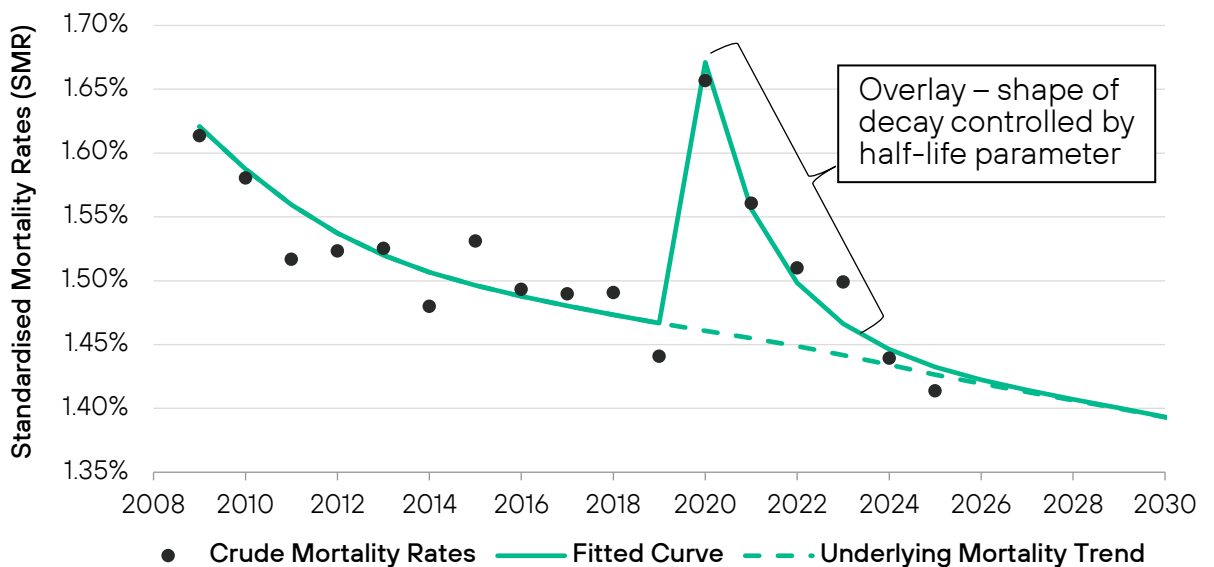
Due to the nature of the way the half-life parameter is calculated, the half-lives used in the CMI 2024 model are not directly comparable to the half-lives in the CMI 2025 model. We have reviewed the half-life parameter used for our best estimate position.

You may remember that our best estimate approach in the CMI 2024 model was to set the half-life parameter to 0.5 years – set to give higher credibility to the recent data. This differed from the CMI's Core Model which used a half-life parameter of 1 year.

## How does the model reflect post pandemic experience?

As per last year, there are two components to mortality projections in the CMI 2025 model, the underlying mortality trend, plus a short-term pandemic experience shock, or 'overlay'.

The overlay uses the full weight of all the data points over the pandemic period (2020 to 2023). The overlay is removed gradually over time to eventually leave the underlying long-term mortality trend remaining, that underlying trend being derived from the crude mortality rates and the overlay. Users can change the timing of the removal of the overlay depending on their views of the pandemic mortality experience. This is controlled by the 'half-life parameter' ('H').



Source: CMI & Isio analysis

The overlay approach allows a better fit to the actual mortality experience seen during the pandemic whilst still retaining appropriate projected mortality rates in the future. The approach used in previous models couldn't give both of these features and so the focus was on the projected mortality rates at the expense of fitting to actual data during the pandemic.

## How did we reach our best estimate approach?

We want to reflect that, whilst in general our views on the challenges faced in the UK and potential impact on mortality haven't changed, mortality experience in both 2024 and 2025 has been significantly lighter than the pandemic period and 2026 experience may be lighter still (at the time of writing). An increase in life expectancy under our best estimate view is, therefore, justified.

Given the continued falls in mortality rates and the passage of time since the pandemic, the effect of changing the half-life parameter has also reduced. This has meant that life expectancies using H=1 and H=0.5 years are now similar at all but the oldest ages. As H=1 years is the core parameter in the CMI 2025 model, we have extended our best estimate approach to include use of either H=0.5 or H=1 years.

Using either H=0.5 or H=1 years gives a similar increase in life expectancy when compared to CMI 2024 model with H=0.5 (our best estimate approach last year) as seen in the comparison table below. Using either of these half-life parameters meets our view of a sensible forward progression in life expectancy given latest experience.

Change in life expectancies vs. CMI 2024 H=0.5	Males age 65	Males age 85	Females age 65	Females age 85
CMI 2025 H=0.5	+0.3yrs	+0.1yrs	+0.3yrs	+0.1yrs
CMI 2025 H=1	+0.3yrs	+0.1yrs	+0.3yrs	+0.1yrs

Source: CMI & Isio analysis

## Impact on liabilities

Switching from Isio's best estimate position in 2024 (using CMI 2024 with H=0.5) to Isio's current position in 2025 (using either CMI 2025 with H=0.5 or H=1) gives the following example approximate liability changes (illustration below for males on a joint life basis).

From	To	Age 50	Age 65	Age 80
CMI 2024 1% long-term trend rate, H=0.5	CMI 2025 1% long-term trend rate, H=0.5	0.89%	0.95%	1.08%
CMI 2024 1% long-term trend rate, H=0.5	CMI 2025 1% long-term trend rate, H=1	0.89%	0.97%	1.21%

Source: CMI & Isio analysis

The above impacts are similar for females (as can be inferred from the life expectancy change figures in the first table on this page) but the overall impact for any specific scheme will vary to some extent depending on the gender and age profile of the membership.

Those that used the core version of CMI 2024 with H=1 would see an impact broadly half as big as those shown above when updating to CMI 2025.

For those undertaking triennial valuations, moving from S3 CMI 2022 to S4 CMI 25, using core models with a long-term trend rate of 1.5% p.a., would see an increase in liabilities of just under 0.5% at age 65, increasing with age. This example includes an update to the base table assumption and highlights the need to consider whether carrying out any scheme specific analysis on your base table assumption would be appropriate.

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# Other parameters

## Long-term improvement rate parameter

- Given recent UK mortality experience it makes sense to reassess the “target” rate of improvement the CMI Model calibrates to in the longer term.
- Market practice gravitates to a long-term assumption of 1.5% p.a. for funding purposes and 1-1.25% p.a. for best-estimate purposes (e.g. accounting).
- Improvement rates had historically been less than 1% p.a. until a period from the mid-1970s to around 2010, when much stronger rates of improvement were seen.
- However, we have seen a sharp downturn with 5-year average improvement rates at or below 1% across the population for most of the last 10+ years. We expect to see volatility in this measure over the next few years as the pandemic washes through this average.
- Further, we question whether there will be sufficient economic resources available to drive further rapid improvements to life expectancy through investment in health care alongside the necessary climate transition and wider global volatility during the lifetime of most DB scheme members.
- Our view, therefore, is that it may be appropriate to utilise 1% p.a. for best estimate purposes at this current time.
- We recognise the subjectivity in this assumption and are comfortable that 1.5% p.a. is likely to remain commonly used for funding purposes, where Trustees are required to set a prudent assumption.

## Initial Addition ('A') parameter:

- CMI improvement models are calibrated to the general population within England & Wales, which may not reflect a specific scheme's population.
- The 'A' parameter was introduced as a way of easily reflecting views on appropriate improvements for specific populations.
- The latest data on differences in mortality improvements between the general population and pension scheme populations cover the period 2012-2023 but are heavily distorted by the significant mortality seen in the pandemic years, which is likely not materially indicative of future trends.
- Looking at the period 2010-2019 there is no significant difference between improvements in the general population and the pension scheme population.
- Our view, therefore, is that for most pension schemes an A parameter of 0% is likely appropriate, but up to 0.25% may be appropriate for additional prudence in funding valuations or where there is reason to believe a particular population may benefit from higher rates of mortality improvement in the short term. The latter may be the case where the scheme has higher than average pensions or a postcode analysis shows the population is expected to enjoy lower than average mortality.



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