Mortality briefing, November 2022

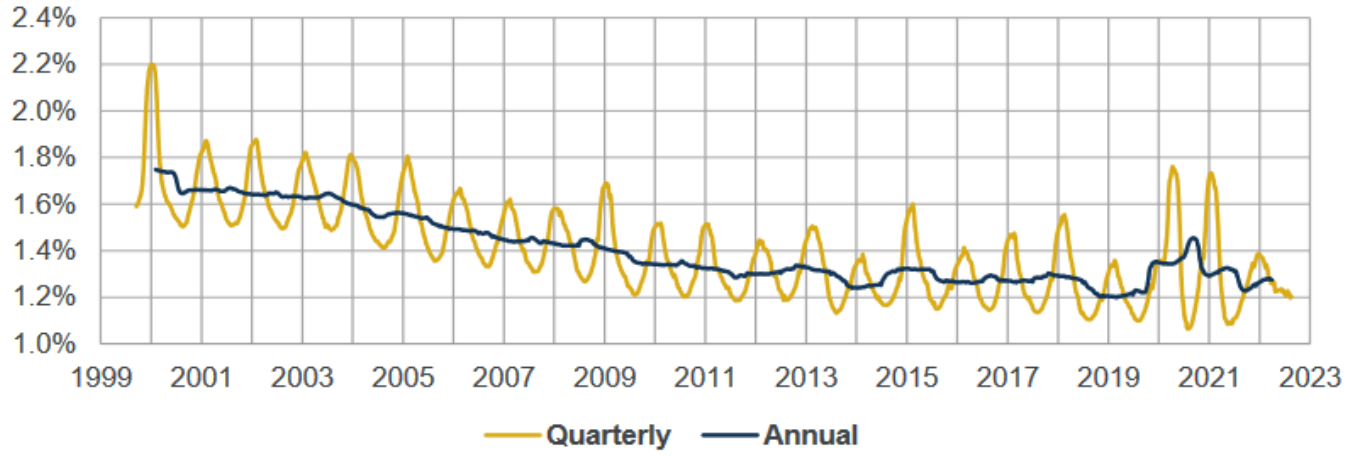
In this briefing we look at the latest trends in mortality, discussing key issues for trustees and employers, and how First Actuarial can help.

Recent mortality trends

The last two years have seen historic levels of mortality across the UK. The residual effects of the Covid-19 pandemic are likely to be felt for a number of years.

When comparing mortality rates with previous years, it's helpful to 'standardise' the data. By this, we mean allowing for the fact that over time, we expect higher rates of mortality as the population ages.

The chart below from the Continuous Mortality Investigation (CMI) does just that. The yellow line shows quarterly centred mortality rates, which denote the 'peaks' each winter. The blue line shows the annually centred rate, smoothing out the seasonal peaks.



We can see that:

- Mortality rates over 2020 and 2021 were significantly higher than the long-term trend, and the highest in nearly 20 years
- Experience over 2020 was particularly unusual, with a material 'peak' in spring/summer, the highest 'non-winter' peak we have on record
- As we move towards the end of 2022, mortality rates continue to be above recent averages.

The impact of this will be specific to individual schemes. Trustees and employers need to understand the mortality experience of their scheme over the past two years, and whether this has had a material impact on the value of the liabilities.

Key issues to consider

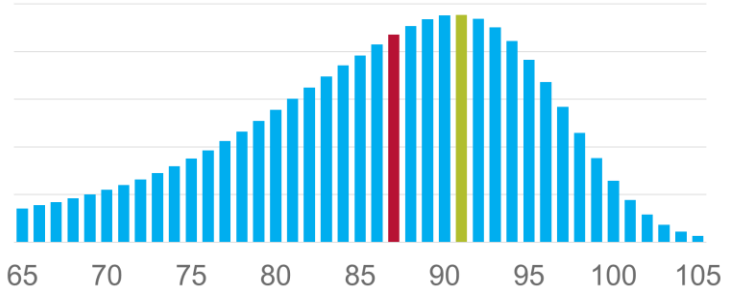
There are three different types of longevity risk:

- Base table risk: The risk that current mortality rates have been mis-estimated. Most dominant risk for older pensioners
- Trend risk: The risk that future improvements in mortality rates have been mis-estimated. Most dominant risk for younger members
- Idiosyncratic risk: The risk from random variations in mortality experience (i.e. that individual members die at a different age to that assumed). This is reduced by diversification within larger schemes.

If members live longer than expected, more money will be needed to pay all future promised benefits.

Life expectancy of an individual

Estimating individual life expectancy is not straightforward. Consider the simplified example below:

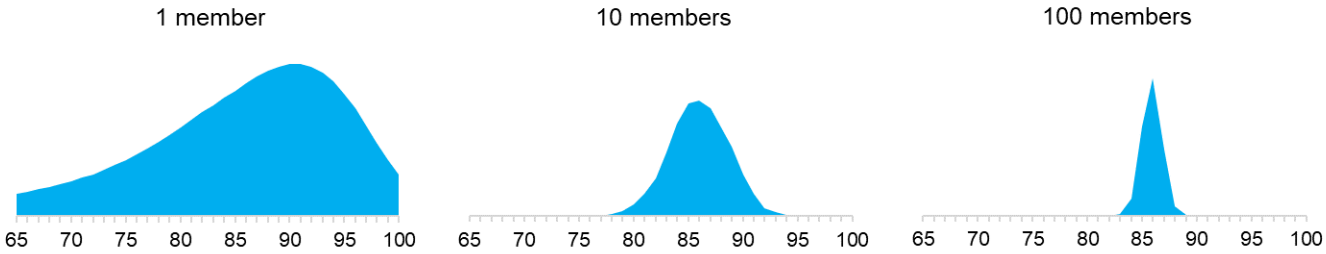


In our example of the distribution of life expectancy, the average life expectancy for a 65 year old is 87 (the red line). However, the most common age of death (i.e. the tallest line, shown in green) is 91.

We can see that the blue lines are quite spread out, meaning that there is a large range of possible outcomes. This gives rise to a lot of uncertainty as to how long members might live and therefore how long the scheme will need to pay benefits for.

Life expectancy of a group

Larger pension schemes have less uncertainty, which means a smaller range of expected outcomes. This is due to the 'law of large numbers', whereby a larger population is easier to model as it is less impacted by the random experiences of individual members. The following graphs show how this range, or 'spread', of average life expectancies decreases as the number of members increases.



Smaller pension schemes can either transfer this risk to a third party (for example by purchasing a bulk annuity with an insurance company), or consider adding a suitable reserve to their liabilities based on their membership.

Comparison against other schemes

Each year The Pensions Regulator provides statistics on the prudent assumptions used by schemes to value their liabilities. The latest average life expectancies used by schemes are shown in the table below:

	Male aged 65	Male aged 45	Female aged 65	Female aged 45
Lower quartile	86.7	88.2	88.8	90.5
Median	87.1	88.7	89.3	91.1
Upper quartile	87.7	89.4	89.7	91.5

Trustees and employers should understand how their assumptions compare, and the reasons for any differences.

How we can help

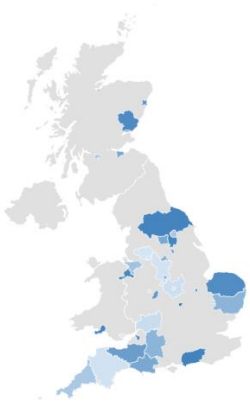
Two of the key factors influencing life expectancy are where a member lives and the size of their pension. Broadly we would expect that:

- Members in less deprived areas live longer than average
- Members with larger pensions live longer than average.

We have developed a mortality analysis report that allows trustees and employers to understand the following:

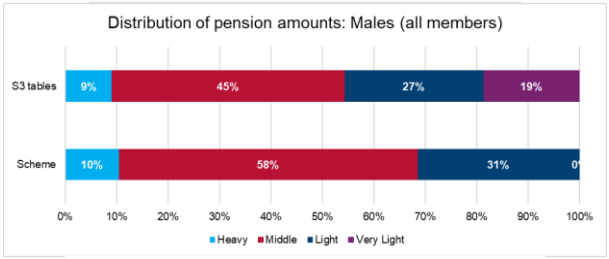
Understand how the location of their membership impacts on life expectancy

We generally expect that members in less deprived areas will live longer than average.



Understand how the pension size of their membership impacts on life expectancy

We generally expect that members with larger pensions will live longer than average.



Scheme members

Males	Heavy <£5k pa	Middle £5k pa to £20k pa	Light £20k pa to £40k pa	Very Light >£40k pa
1 (most deprived)	0.0%	0.0%	0.0%	0.0%
2	0.0%	0.0%	0.0%	0.0%
3	0.0%	0.0%	0.0%	0.0%
4	1.2%	0.0%	0.0%	0.0%
5	0.0%	15.2%	0.0%	0.0%
6	1.6%	7.1%	8.3%	0.0%
7	0.1%	3.7%	15.9%	0.0%
8	1.2%	14.6%	10.6%	0.0%
9	0.2%	0.0%	0.0%	0.0%
10 (least deprived)	0.0%	0.0%	0.0%	0.0%
Unknown	6.4%	13.8%	0.0%	0.0%
Total	10.7%	54.4%	34.8%	0.0%

Combine location and pension size into a bespoke adjustment

We are finding that both trustees and employers are keen take a more detailed look at their membership, rather than simply assume that mortality is in line with the average scheme.

Further information

To request a bespoke mortality report or discuss any other aspect of mortality with us, please contact your usual First Actuarial consultant.

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