



# The latest evidence on longevity: Impact on your fund

London Borough of Hackney Pension Fund

December 2016



# Introduction

This report contains the key findings of our analysis for the London Borough of Hackney Pension Fund. Throughout, we have focussed on why your results matter and suggested how you can apply them to keep on top of your longevity risk.

We've tried not to clutter the report with technical terms and jargon. But combining state of the art techniques with the most appropriate data is fundamental to the quality of your results. We've included a very brief summary of how we do this in the box to the right.

Greater detail, in-depth analysis and further explanation can be found in your suite of full reports, available from the members' area of [www.clubvita.co.uk](http://www.clubvita.co.uk).

We hope that you find this report accessible, informative and above all useful. As always, we'd be delighted to receive any feedback on this or our other services to you.

We are grateful for the continued support of you and all our other members. We are confident that by sharing their data, every member of Club Vita benefits and gets out more than they put in.

For and on behalf of Club Vita LLP

21 December 2016

“We've tried not to clutter the report with technical terms and jargon.”



The size of the data is crucial to the statistical credibility of your analysis

## How we performed your analysis

Your analysis is built on the combined data of 221 diverse funds, paying 2.7 million pensioners from across the UK. Between them, they provide records of some 1,157,000 deceased pensioners.

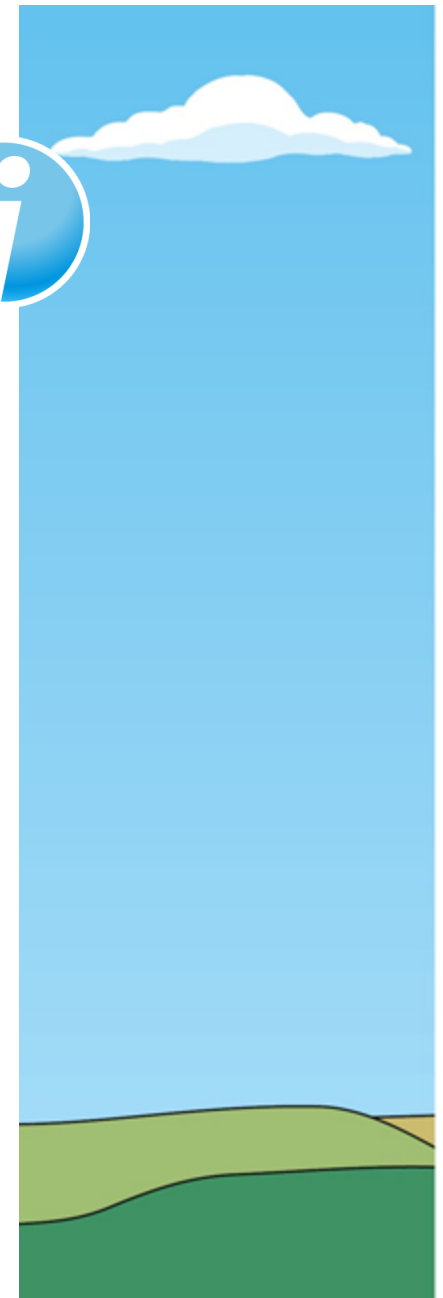
The **size of the data** is crucial to the statistical credibility of your analysis, and its **long history** ensures we can share with you invaluable insights on pension scheme **longevity trends**. And by asking each subscriber for fresh data every year we keep your analysis **up to date**.

Perhaps most important of all is the **richness of the data**. By getting postcodes, pension amounts, salaries, reason for retirement (and much more) direct from the administrators of every scheme, we can test exactly what factors impact on lifespans. It also means we can apply our results accurately to your fund - in essence picking out those many individuals who are most like each of your members and using their experience to provide up-to-date, relevant information.

A few key results:

- By combining affluence (salary or pension) with postcode, our model is **much more predictive than using postcode alone**.
- We use **salary**, in preference to pension amount, because it is a better measure of affluence (for men).
- By combining affluence, postcode, reason for retirement and occupation type, we capture a **spread of 10 years** in men's average lifespan – so our model works well for all kinds of schemes.

These features in combination are what drive the robustness of our analysis, and the robustness of the decisions our members make as a result.





## Your key longevity issues

The world of longevity never stays still for long, and it can often be difficult to establish which changes are, or are not, relevant to your fund. In this report we highlight the key issues you should be aware of:

### Current longevity

- Impact of the latest changes in longevity – what does the latest experience of defined benefit pensioners mean for your fund?
- Experience of your members – are your members surviving for longer or shorter periods than expected and what does this mean for your funding position?
- Some members are more influential than others – the experience of the pensioners with the highest pensions is important to your fund.

### Future longevity trends

- Recent longevity trends will influence the assumptions you set for how the life expectancy of your members will change in the future. It is important to understand the reasons behind recent experience before relying on it to set the longevity trend assumption for your fund.
- The future is uncertain, yet many pension schemes base their funding, contribution and investment strategies on a single assumption of how life expectancies will change in the future. Using our 'Alternative Futures' can help you explore how resilient your strategies are when things don't turn out in line with your assumption.

Given an uncertain future, how resilient is your strategy?

# The latest evidence on current lifespans

New evidence on longevity emerges every year. That's why we annually update your VitaCurves (longevity assumptions matched individually to the characteristics of each member of your fund).

**Taking account of the latest VitaCurves would decrease your liabilities by 1.6%**, compared to your current funding assumptions. This impact is broken down below.

Membership group	Approximate change in liability using VitaCurves (with data calibrated spanning 2012-2014) rather than current funding assumption
Actives	-1.3%
Deferred Pensioners	-1.5%
Pensioners and Dependents	-1.8%
<b>Overall</b>	<b>-1.6%</b>
Change to future service contribution rate	-1.6%

Taking account of the latest VitaCurves would decrease your liabilities by 1.6%

This impact will change from year to year due to:

- recent longevity improvements being different to those you assumed
- the impact of emerging evidence for people like your members, captured in these latest VitaCurves
- changes to your data or membership profile

In particular the latest longevity experience spans 2012-2014, a period which includes a particularly harsh winter and relatively low rates of improvement in the longevity of the most affluent pensioners (who tend to hold the greatest share of liabilities). We explore both of these points later in the report.

## For more information

For further details, see your **VITACURVES** report, available from the members' area of [www.clubvita.co.uk](http://www.clubvita.co.uk). This also explains how your advisors can access and make direct use of your VitaCurves (either for individual members, or average assumptions for key sections of your fund) in their calculations for you.



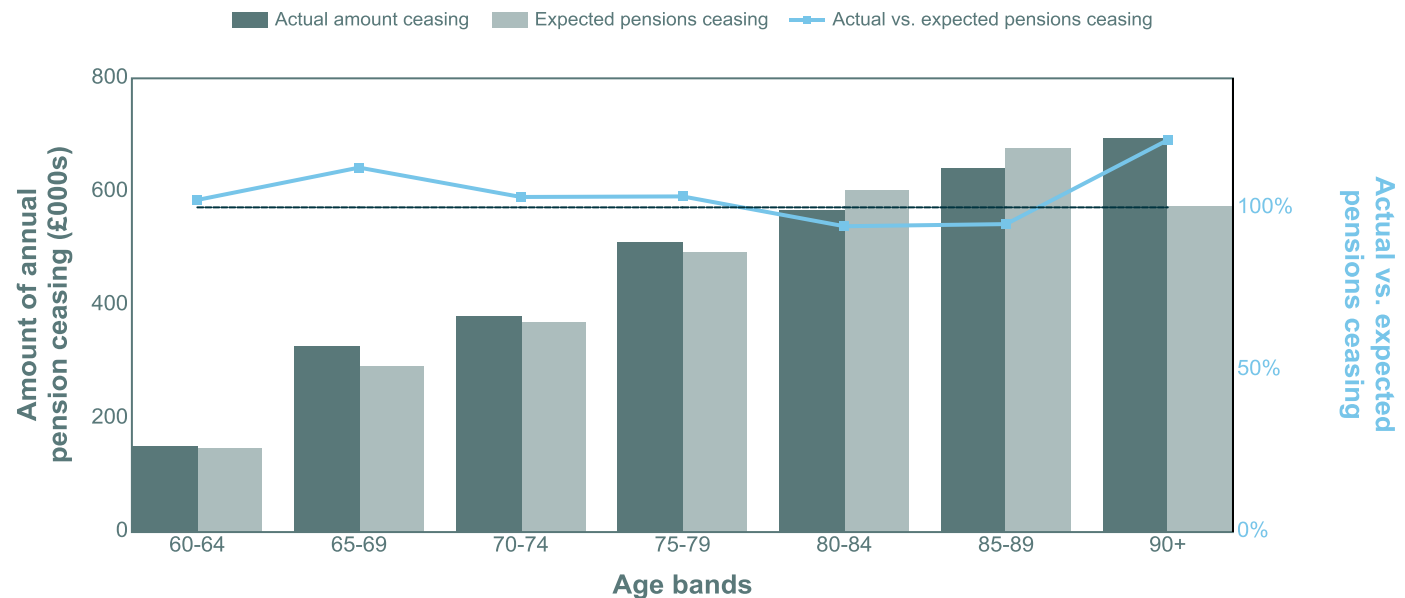
## Why this matters

- This analysis tells you if your funding assumptions (for current longevity) remain on track.
- You can build this latest information into your decision making, for example:
  - on longevity derisking (such as longevity swaps or buy-in)
  - on financial derisking (such as trigger points or cashflows underlying Liability Driven Investment strategies)
  - on funding

# Your fund's own experience

However well you set your fund's longevity assumptions, your experience will vary from year to year. This can lead to funding gains (if fewer members survive than expected) or strains (if more survive than expected).

Fund experience over three years to 31 August 2016 split by age group (All types of pensioner)



The chart above looks at experience over the last three years and contrasts the actual amount of pension ceasing (dark grey bars) with the expected amount ceasing (light grey bars) at each age range. The ratio of these two numbers is shown as a light blue line. Where the blue line is above 100%, there were more deaths than expected - typically leading to a funding gain - and vice versa.

The table below shows **the impact of your fund's experience since the last valuation** (as at 31 March 2013) **has been to decrease your liabilities by 0.1%.**

	Year ending			Since last valuation
	31 Aug 2016	31 Aug 2015	31 Aug 2014	
Extra (less) pension in payment at year end (£k)	(68)	(162)	53	(242)
Estimated % increase (decrease) in liabilities	(0.1%)	0.0%	0.1%	(0.1%)

When combined with the latest VitaCurves (see previous page), we estimate this would **in aggregate decrease your liabilities by 1.7%.**

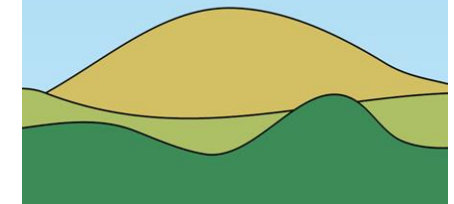
#### For more information

For further details of this and other monitoring, see your **VITAMONITOR** report, available from the members' area of **[www.clubvita.co.uk](http://www.clubvita.co.uk)**.

The impact of your fund's experience since the last valuation has been to decrease your liabilities by **0.1%**

#### Why this matters

- Your fund's experience is ultimately what drives the costs that emerge.
- For very mature or small schemes these impacts can be significant.
- Experience consistently different to your assumptions may suggest changes are needed.
- But it should be kept in mind that this experience can be volatile.

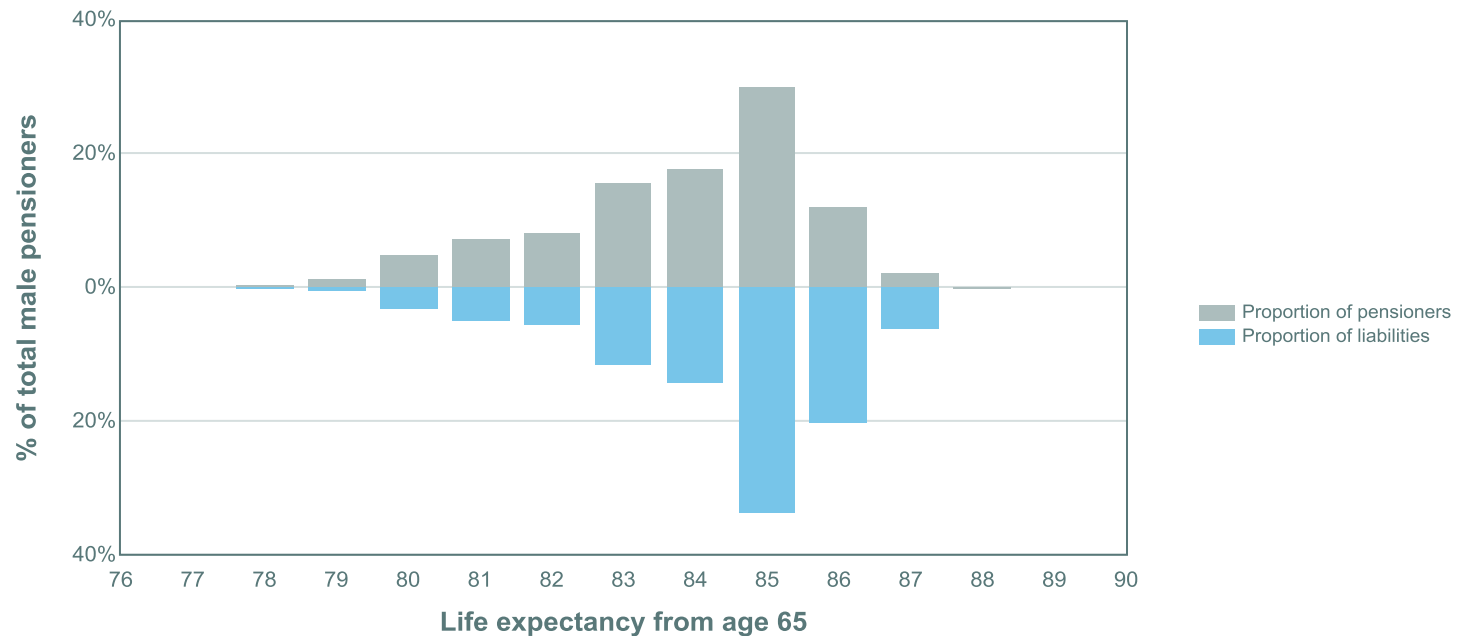


# Diversity and concentration of risk

The chart below shows the wide range of life expectancies predicted by your VitaCurves analysis. The top half shows the spread of life expectancies from 65 (to the nearest year) for male pensioners. It illustrates that some members are expected to live much longer than others.

The bottom half of the chart also shows the spread of life expectancies from 65, but here we have shown the proportion of member liabilities at each age. Taking both parts of the chart together, you can understand how influential certain groups of your members are to your fund.

## Spread of life expectancies for male pensioners



It is clear that the traditional approach of using **a single assumption** simply did not reflect the reality of how longevity differed for pension scheme members, and **was an oversimplification for many purposes**. Using VitaCurves allows you to set a longevity assumption that reflects the characteristics of each member of your fund.



The larger bars for high life expectancies in the bottom half of the chart relate to more affluent individuals with larger pensions. In fact, across the whole fund:

- 50% of the liabilities are concentrated on 13.6% of members
- 10% of liabilities are concentrated on just 1.1% of members (i.e. 258 individuals)
- The “bottom” 50% of members account for less than 9.7% of liabilities

This means that **the lifespans of the members with the largest liabilities will have a disproportionate effect on the finances of the fund.**

Understanding where you have a concentration of risk enables you to make better decisions on how to reduce risk. It would generally be most efficient, in terms of the most reward for the effort applied, to focus de-risking efforts on the members with the largest individual liabilities.

Lifespans of the members with the largest liabilities have a disproportionate effect

## Why this matters

A single longevity assumption is an oversimplification for situations such as:

- setting (appropriate) contribution rates for employers with different types of members
- assessing the cost of designing member options (e.g. enhanced transfer values or pension increase exchanges) where take up will be skewed to certain groups
- calculating liabilities for subgroups of the scheme (e.g. buy-in for older members)

The VitaCurves analysis enables you to allow for the spread of life expectancies wherever it benefits your decision making.

# A volatile start to the 2010s

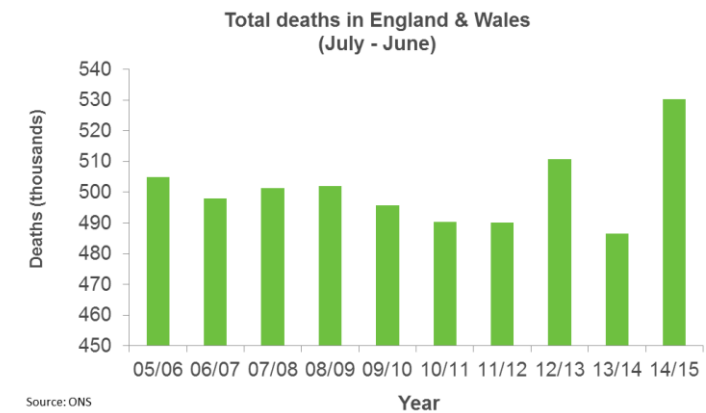
How longevity will increase in the future ('future improvements') is an important assumption for all pension schemes. Setting this assumption involves projecting recent levels of improvement into the future, so understanding the drivers of recent longevity experience is critical.

We have seen lower improvements in longevity in recent years, which has resulted in lower rates of longevity improvement being projected into the future. As a result of this change the value placed on liabilities has typically fallen.

One way to look at improvement patterns is to consider deaths over the course of a year. In the chart to the right we start each year in July to capture the full winter season – where we tend to see most deaths. The chart shows that:

- The number of deaths has generally been falling – this means life expectancy has been increasing
- The most recent years have been volatile, with two years of particularly heavy mortality – 2012/2013 and 2014/2015. We explain experience in these years below.

The chart covers the England & Wales population, although similar patterns are also seen in Club Vita data.



## 2012/2013

After the dullest summer for 25 years (at least in terms of the weather!) we had a particularly harsh (and long) winter, followed by the coldest spring for 50 years. All of which led to particularly heavy mortality.



## 2014/2015

Winter 2014/2015 saw a particular virulent flu strain which unfortunately the winter flu vaccine offered little protection against. This led to a large number of flu deaths particularly amongst the elderly.

The latest longevity projections published on behalf of the UK actuarial profession assume that these recent years of heavier mortality are the start of a new trend of much slower increases in life expectancy than we have seen over recent years.

Schemes who automatically update their assumptions to the latest projections are likely to see reductions in Technical Provisions (of the order of 2-5%).

# What this volatility means for you

So what does this mean for schemes setting assumptions for how longevity will change in the future? Schemes are tending to take one of the following approaches:

## Retain existing assumption

Many schemes are nervous about automatically reflecting the recent experience. Their concern is that the recent falls in longevity improvements will prove to be a temporary feature and their effects will be reversed by longevity improvements in future years. This reversal could be driven by the fittest pensioners who are more likely to have survived the recent winters.

## Fully reflect recent experience

Some schemes are fully reflecting recent experience. They will hold a view that recent experience is likely to be repeated in the future, in essence that longevity will improve at a slower rate in the future than during the period from 2000 to 2012. In doing this they accept that if a reversal in longevity improvements occurs future increases in funding reserves will be required.

## Partially reflect recent experience

Other schemes are partially reflecting recent experience. These schemes are typically nervous that recent falls in longevity improvements will prove to be a temporary feature, but accept that we *may* be entering a period of slower longevity improvements.

Whichever approach is adopted, it is important that schemes continue to monitor their longevity experience to give early warning of future changes in funding reserves. You are able to do this using your **VITAMONITOR** report, available from the members' area of [www.clubvita.co.uk](http://www.clubvita.co.uk).

Adoption  
of the latest longevity  
projections can  
reduce liabilities by  
2-5%.

# A scheme-specific approach to improvements

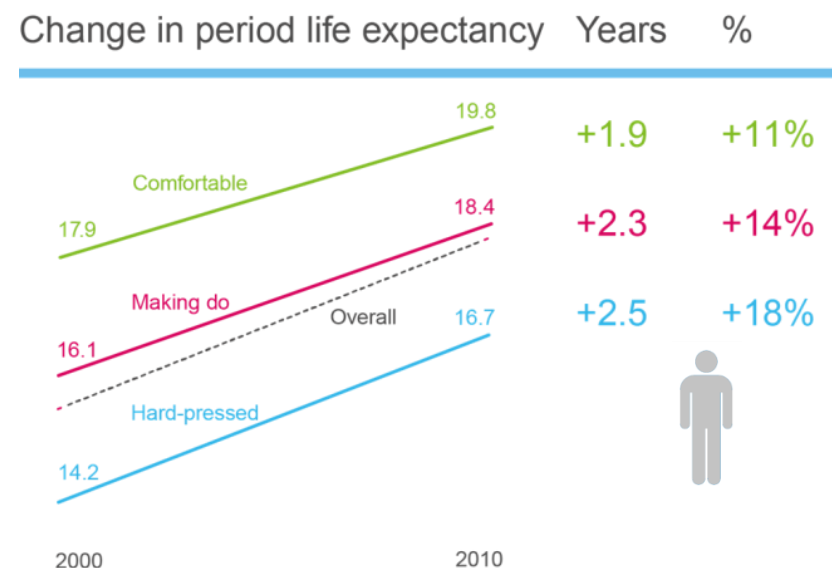
The most widely used longevity improvement assumptions make use of England & Wales population data, making it of less direct relevance to pension schemes than the experience of defined benefit scheme pensioners. However your fund already uses the experience of defined benefit scheme pensioners as a starting point for the assumption used for how life expectancies will change in the future.

In 2014, we concluded a research project with the PLSA (formerly the NAPF) investigating historic longevity improvements within defined benefit pension schemes. We identified:

- That life expectancy had increased at different rates for different types of defined benefit pensioner.
- That pensioners could be categorised as one of three types - 'Comfortable', 'Making do' or 'Hard-pressed' – based on broad affluence and lifestyle measures.

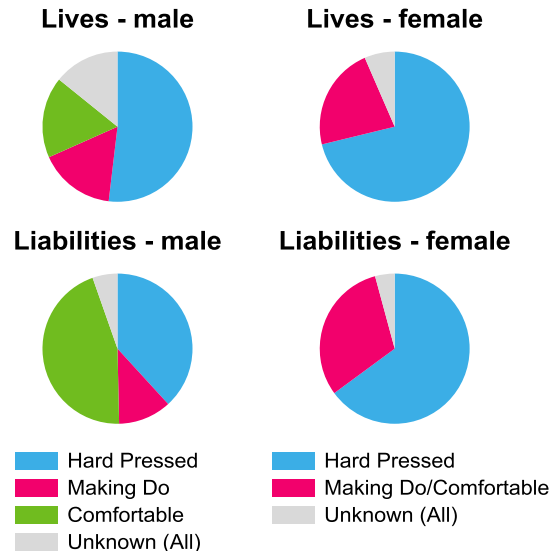
The 'Comfortable' group were found to have above average life expectancy. However, between 2000 and 2010 they saw the **slowest increase** in life expectancy of the three types of pensioner. Over the same period the 'Hard Pressed' group (who are shorter-lived) saw the **fastest increase**.

The headline result of these changes is that the gap between life expectancy of the shortest and longest lived defined benefit pension scheme members has been reducing. This trend is another factor that pension schemes should take into account when setting assumptions for how longevity may change in the future.



# What this research means for you

Every pension fund is different and has its own socioeconomic profile. The breakdown of your fund's members by longevity trend group is shown below.



## Why this matters

- These differential trends make it critical to use up-to-date base tables. Club Vita provides you with the most up-to-date, relevant information available.
- The differences seen are likely to persist in the future. The NAPF study provides the tools to set an improvement assumption relevant to your population and to explore the likely impact of different longevity scenarios on your fund's finances.

During the 2000s your members saw lower than average longevity improvements

The majority of your fund's liabilities relate to those in the **making do** and **comfortable** groups (excluding any "unknown" members). This means that during the 2000s, your members will have seen lower **improvements in life expectancy** than average for pension scheme members. The good news is that you are already capturing these emerging trends by using VitaCurves.

### What does this mean for the future?

Recent trends are a helpful guide to the short term. For example, we might expect life expectancies to continue to converge during the 2010s. Your actuary can use the NAPF study to fine tune short term expectations to reflect your fund's population. However, because you are already using improvements calibrated to Club Vita data, the impact is likely to be small (½% or less).

Much more material to your funding and investment strategy is how trends will evolve over the medium and long term for these different groups. Will life expectancies continue to converge, or start to diverge again? We explore different potential scenarios over the next two pages.

# Alternative futures

How life expectancy will increase in the medium to long term is hugely uncertain. Nevertheless, in various different situations trustees are called upon to set an improvement assumption. There is a huge diversity of possible outcomes to consider, but discussions often focus on a small range, often couched in actuarial language.

In particular, typical sensitivities set out what happens to cashflows and liabilities if pensions were paid for 1 year more than expected. But they don't highlight the fact that most schemes are assuming a rapid slowdown in improvements, nor do they give any insight into specific scenarios. For example, what happens if life expectancies keep increasing like they have done in the last 10 years, or reduce to previous levels?

As part of Club Vita's NAPF study, we collaborated with external parties to come up with 6 narratives to help trustees understand the range of potential scenarios that could transpire over the coming decades<sup>1</sup>.

Our scenarios cover a wide range of outcomes, ranging from material declines in life expectancy to prolonged continuation of recent increases. By focussing on the real world events that would need to occur for these scenarios to unfold, rather than focusing on improvement rates themselves, we help to give some context to each scenario to aid discussions.

How your fund would be impacted by each of these scenarios will depend on a number of factors, including the profile of your fund against the longevity trend groups shown on the previous page, as well as the age profile and maturity of your fund.

On the next page we investigate the approximate financial impact of each scenario, relative to your current funding. In doing so we have updated your current funding assumption to reflect recent mortality experience, which is likely to have reduced liabilities.

You may wish to explore one or more of these scenarios in more detail with your advisers – for example, to consider how your fund's funding and investment strategy would change if longevity trends developed in line with one of these scenarios.



<sup>1</sup> More detail about each scenario is set out in our publication with NAPF <http://www.clubvita.co.uk/SiteCollectionDocuments/Longevity-model-Dec14.pdf>

# The financial impact of scenarios

We have considered the impact on your funding reserve of the future being in line with each of the scenarios. In doing so we have taken as a starting point your existing approach to setting longevity improvement assumptions. For example, for your fund, given your approach, if the future is like 'Extended Youth' your liabilities would increase by around 12%.

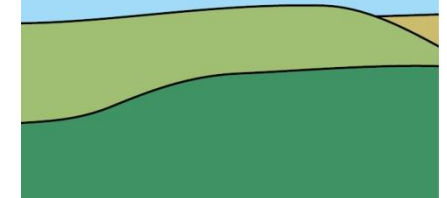


We can see for your fund the impact of the various scenarios ranges from a 15% reduction to a 12% increase in liabilities. This **27% spread** is indicative of the range of possible future outcomes that your fund might face (although the reality may be even more extreme than illustrated here).



## Why this matters

- Understanding the range of potential outcomes can help justify your current assumption.
- It also provides a framework within which to consider the impact of alternative scenarios on your funding and investment decisions.
- Because our scenarios have specific narratives attached, this allows you to test your assumption against beliefs you have on what the future may hold.



# Reliances and Limitations

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The contents of this report are reliant on the data supplied to us on your behalf including administration data provided by Alasdair Hood of Equiniti Pension Solutions on 30 September 2016.

This report provides a summary of key results from Club Vita's analysis. For more detail please refer to your full set of reports (which are compliant with relevant Technical Actuarial Standards) available via the members' area of [www.clubvita.co.uk](http://www.clubvita.co.uk).

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