Club Vita longevity update

Staffordshire Pension Fund

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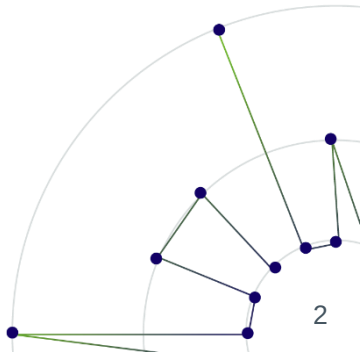
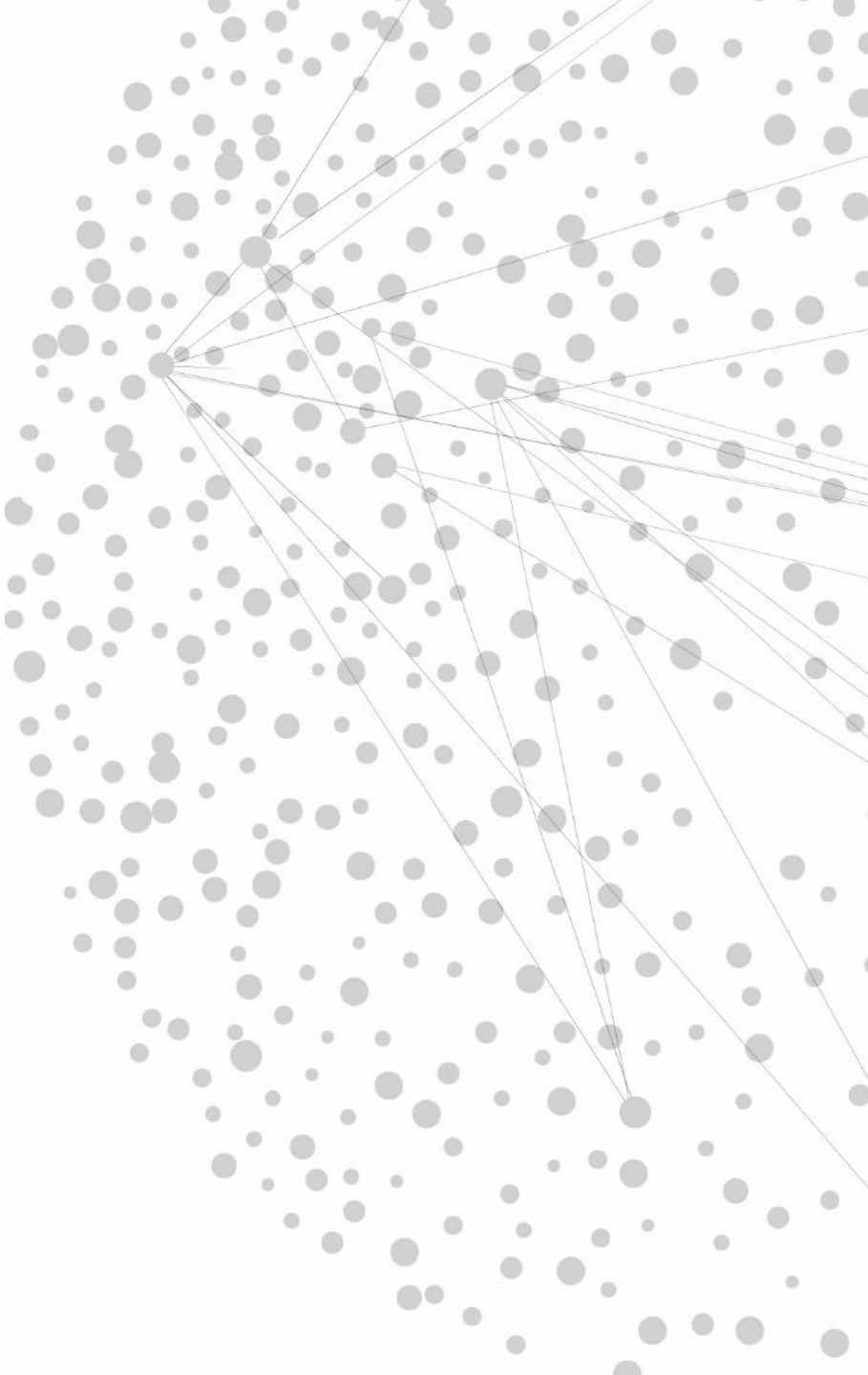
18 December 2020

Agenda

1. What is Club Vita?
2. Key points since we last met
3. Baseline longevity
4. Longevity trends incl. COVID-19
5. Further information



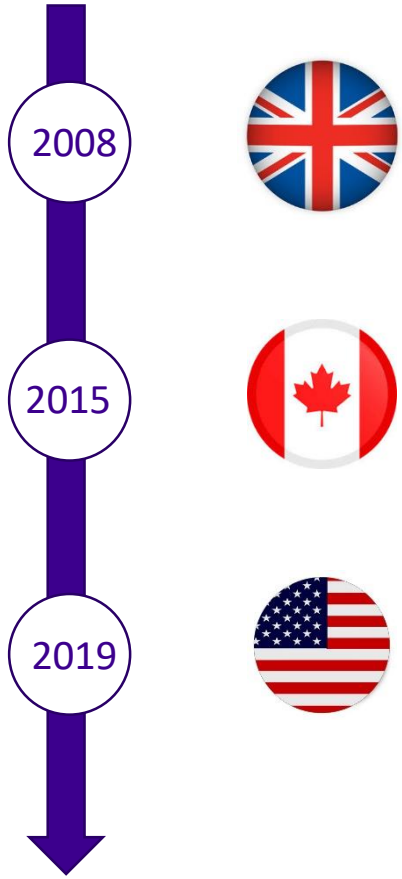
What is Club Vita?



Club Vita

Proper noun, [kluhb vee-t*uh*], \ˈkləb vē-tə\

1. Centre of excellence for improving understanding of human longevity.
2. Community of organisations with a shared interest in longevity and belief that the ‘bigger’ the data, the lower the (statistical) noise.
3. Provider of longevity risk informatics to support pension funds’ risk management strategies and enable market innovation.



Club Vita is an independent data utility, supporting pension funds, advisors, insurers & asset managers

Key points since we last met

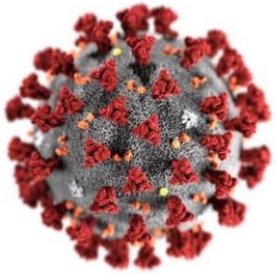
Key points since we last met

Recent experience

"…"£2bn windfall to the life sector."

- There has been a further *slowdown* in improvements to life expectancy (but it is still increasing)
- However, 2019 bucked the trend and saw one of the lightest years on record for mortality
- Overall, this has contributed to a reduction in liabilities when taking account of the latest VitaCurves

COVID-19



- Official figures don't tell the whole story – true death levels (direct and indirect) could be 50%-60% higher
- Important to understand the socioeconomic landscape and age spectrum of the fund in order to determine how these different groups have been impacted by COVID-19 and what assumptions are appropriate in future
- There could be a wide range of volatile longevity outcomes in the short to medium term – monitoring is vital

Taking account of the latest VitaCurves would decrease your 'whole fund' liabilities by c0.3% compared to your current funding assumptions

Image source: Forbes

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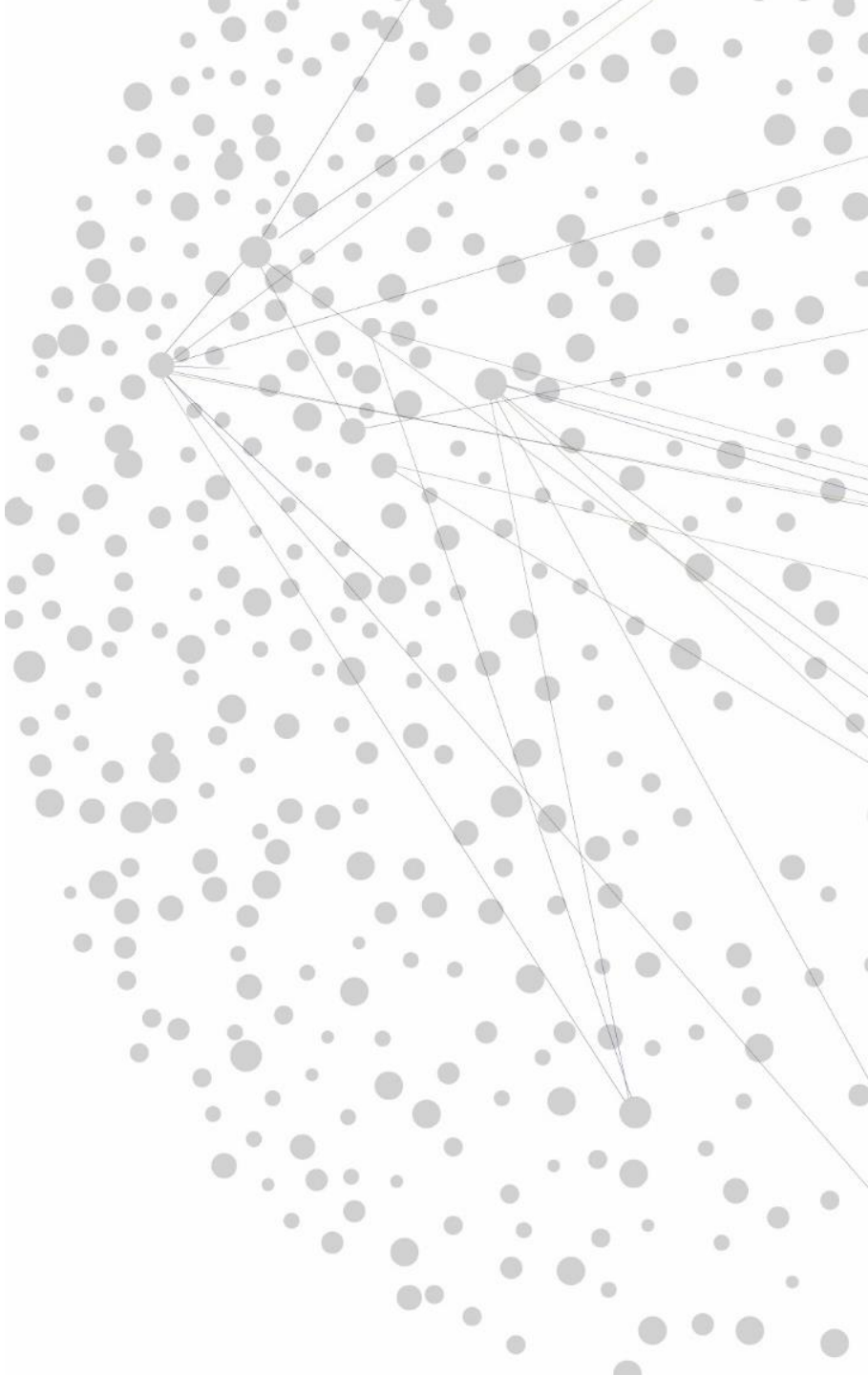
Baseline longevity



VitaCurves baseline model

- Rich data set gives us a best in class baseline model

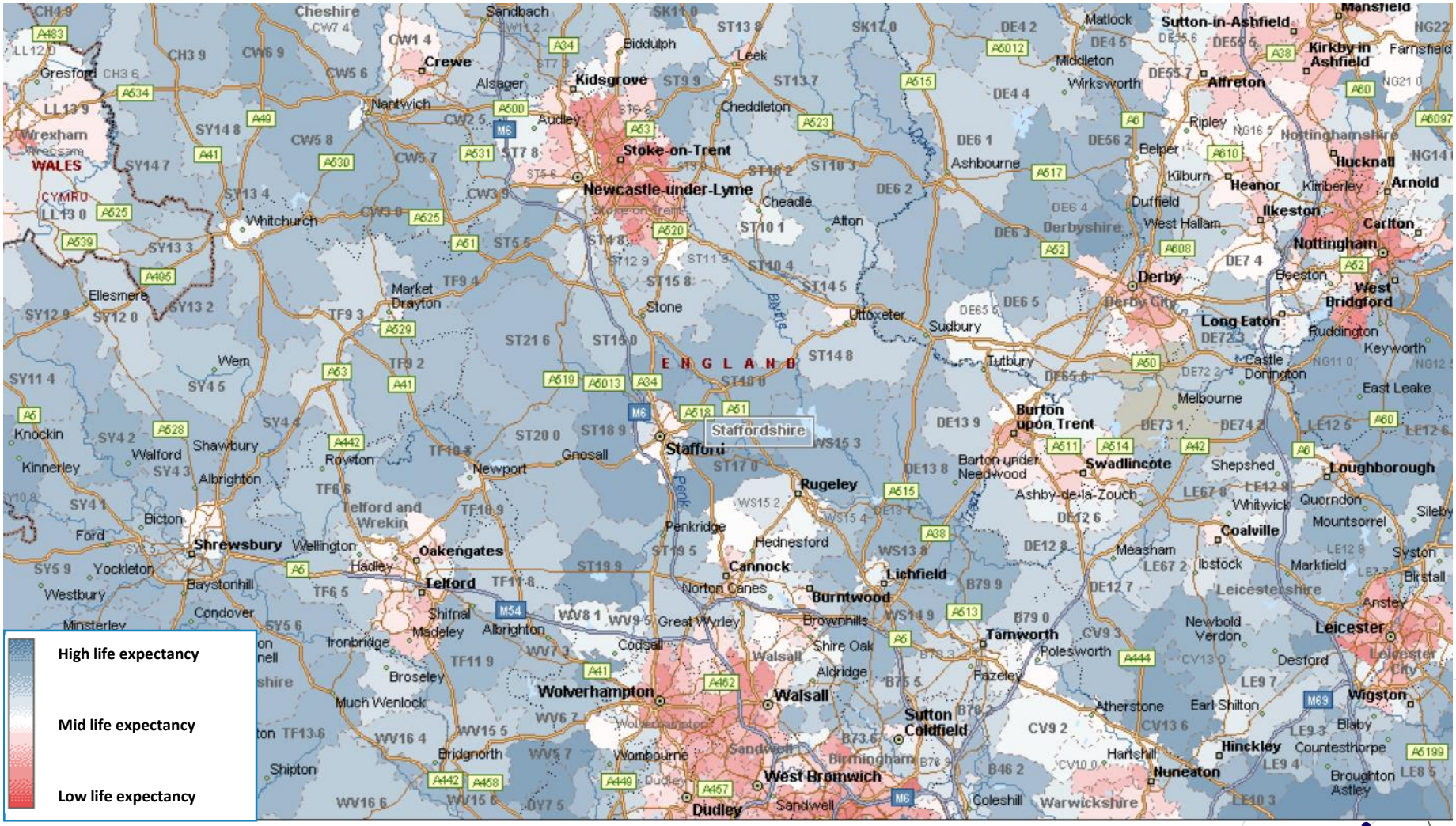
Unhealthy lifestyle postcode	4 ¾ yrs	Healthy lifestyle postcode
Low affluence	2 ½ yrs	High affluence
Ill health retirement	3 ¼ yrs	Normal health retirement
Manual worker	<½ yr	Non-manual worker

Life expectancy from 65: **12 years**

Life expectancy from 65: **22 years**

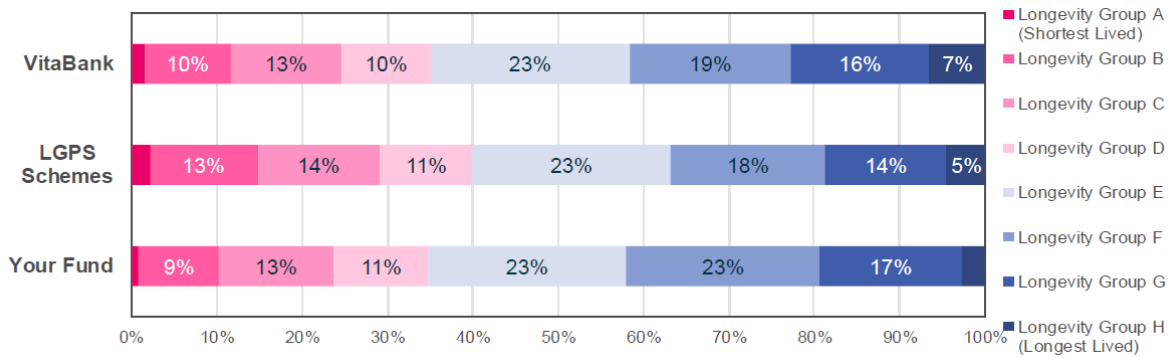
Objective measure of life expectancy based on known data

Vita's lifestyle effect (postcode based)

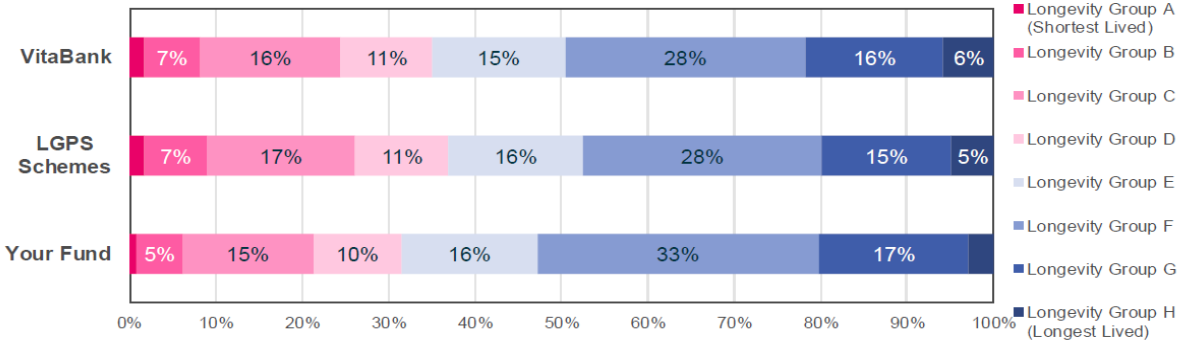


Benchmarking – lifestyle

Male pensioners

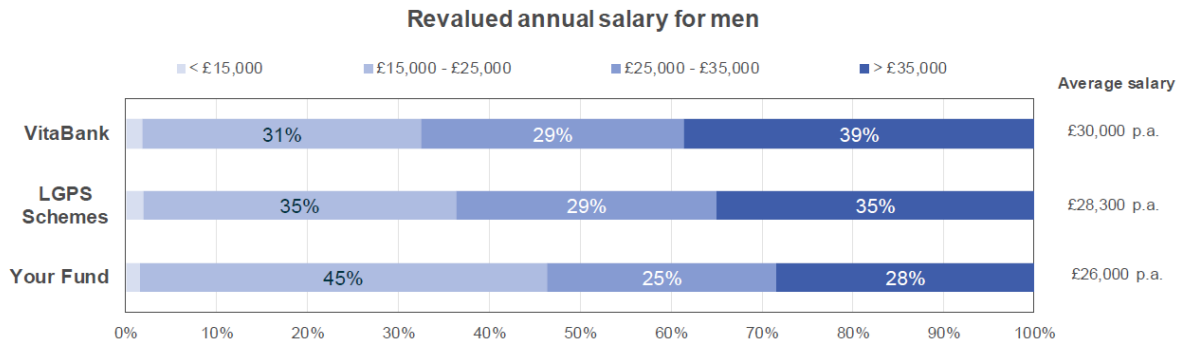


Female pensioners

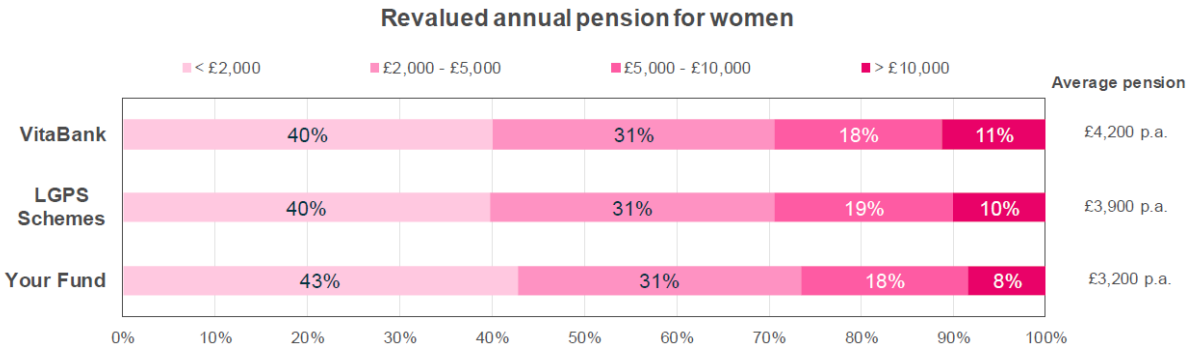


Benchmarking – affluence

Male pensioners



Female pensioners

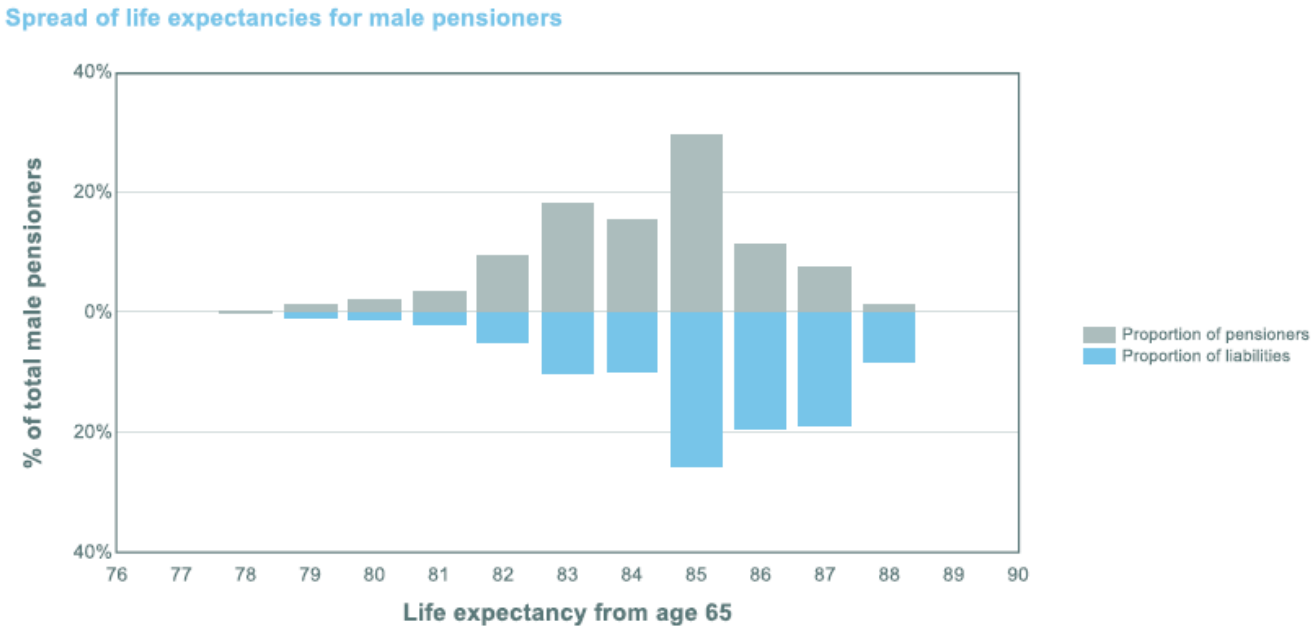


Impact of updating VitaCurves

Membership group	Approximate change in liability using the latest VitaCurves (data calibrated spanning 2016-2018) rather than current funding assumption
Actives	-0.3%
Deferred pensioners	-0.2%
Pensioners and Dependants	-0.4%
Overall	**-0.3%**
Change to future service contribution rate	**-0.2%**

Taking account of the latest VitaCurves (2016-2018 data) would decrease your 'whole fund' liabilities by 0.3% compared to your current funding assumptions (2015-2017 data)

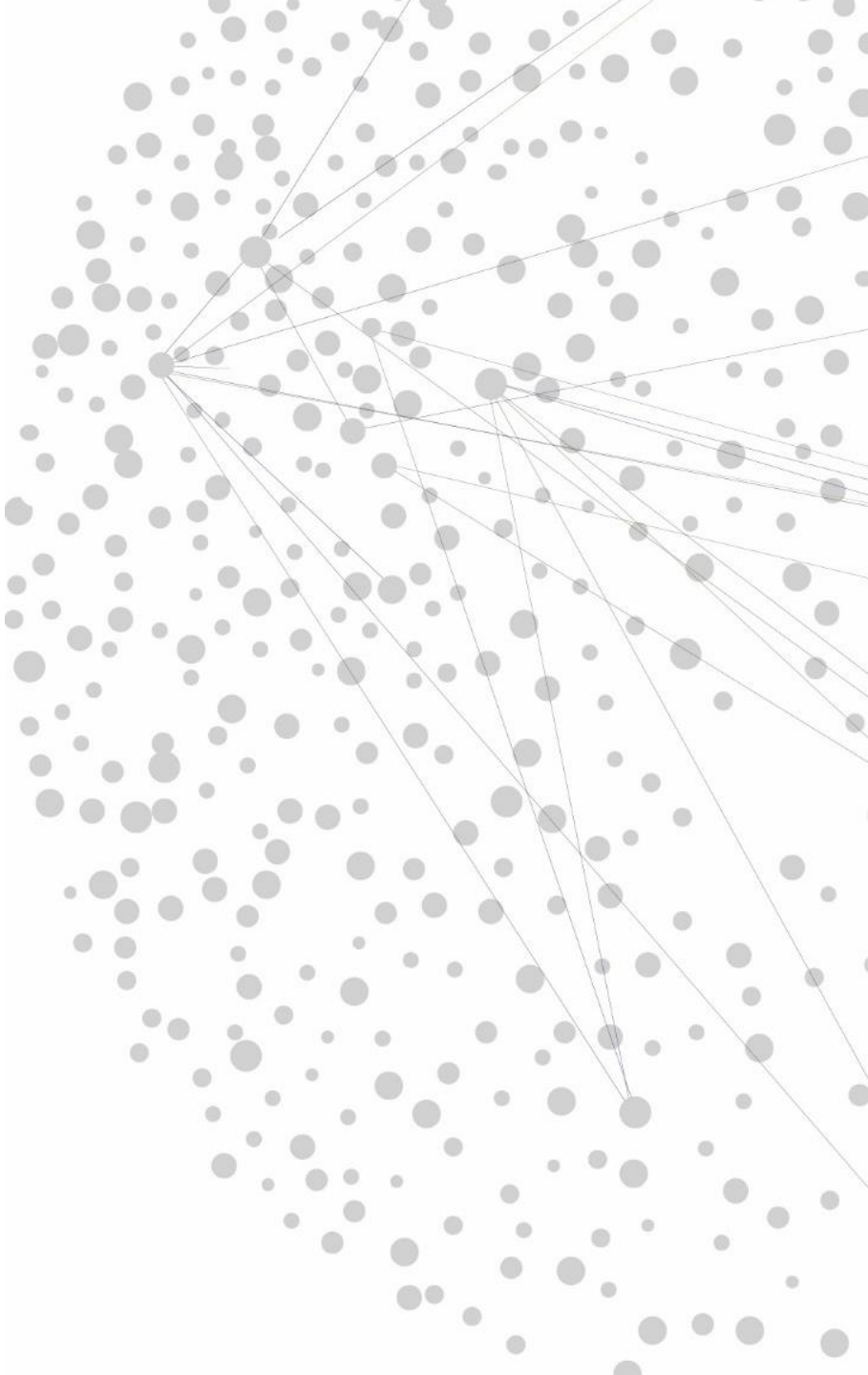
Membership profiling



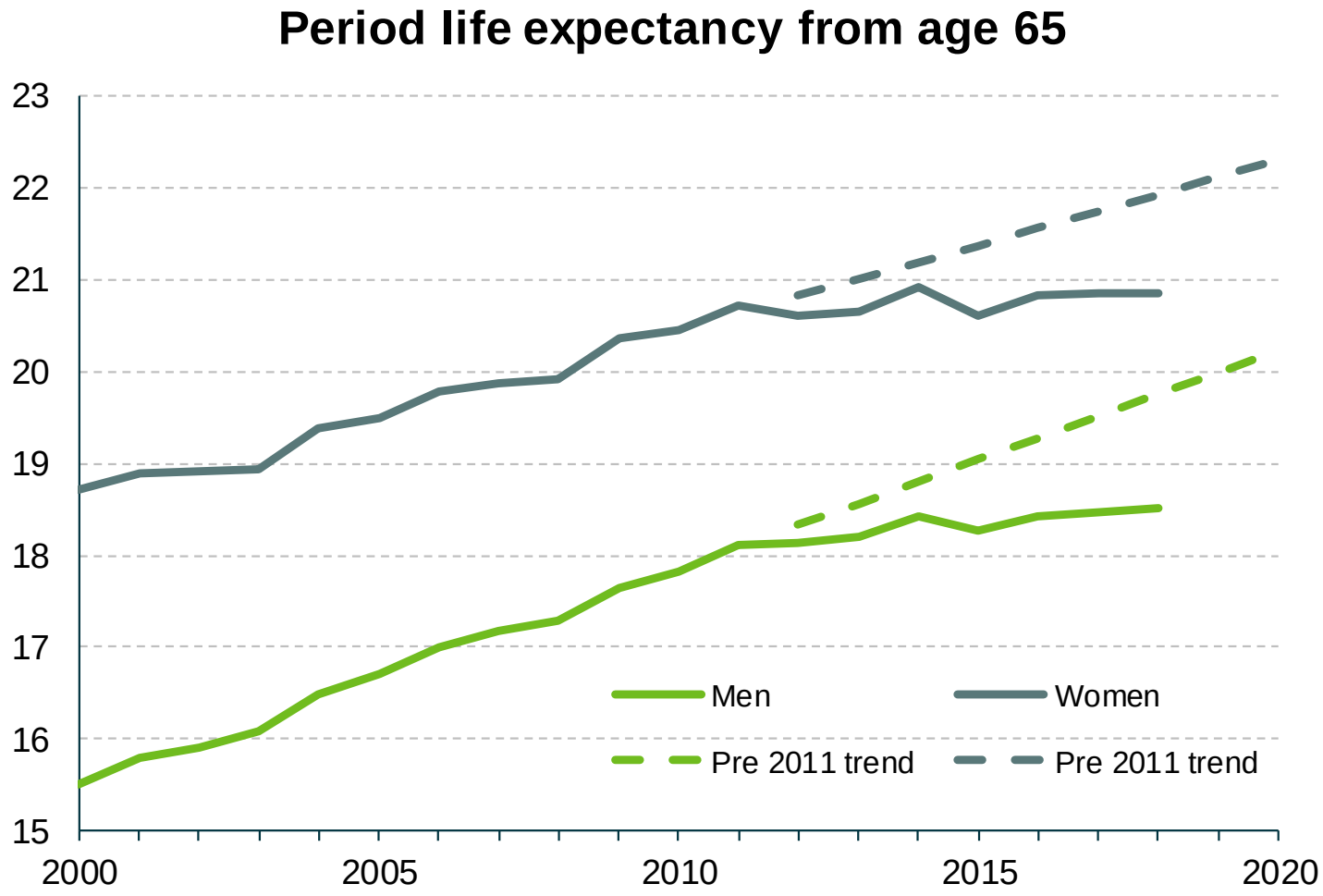
Across the whole Scheme:

- **50%** of liabilities are concentrated on **9.8%** of members
- **10%** of liabilities are concentrated on just **0.8%** of members (i.e. 1,003 individuals)
- The “bottom” 50% of members account for **less than 4.7%** of liabilities

Longevity trends



No more longevity improvements?...



Longevity is still improving, just not as fast as before

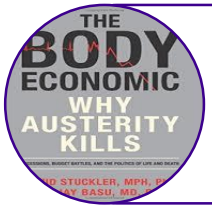
What might be driving the slowdown?

End of an era

Have we exhausted the era of cardio-vascular improvements with no replacement driver of improvements?

High-rise 00s

Were the 2000s simply abnormally good e.g. strong investment in health care, drives for social (health) equality?



Cash-strapped Britain

Are austerity driven cuts **(supply)** impacting health outcomes, particularly of older people in an ageing population **(demand)**?

Frailty decline

A few harsh winters and flu seasons, each of which trigger frailty decline and premature mortality have merged together.

Rise of Dementia

Larger rise in dementia than attributable to ageing population – are current generations more 'prone' for some reason?

Data anomaly?..

Some have questioned if there is an anomaly within the population data. Unlikely given the results replicated in Club Vita.

Are these experienced equally across society?

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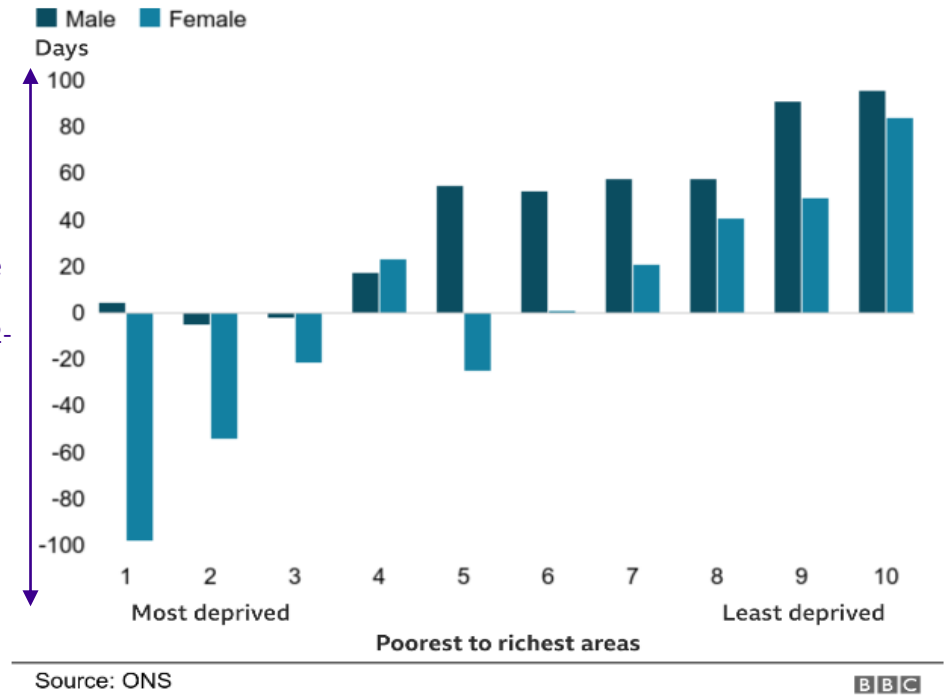
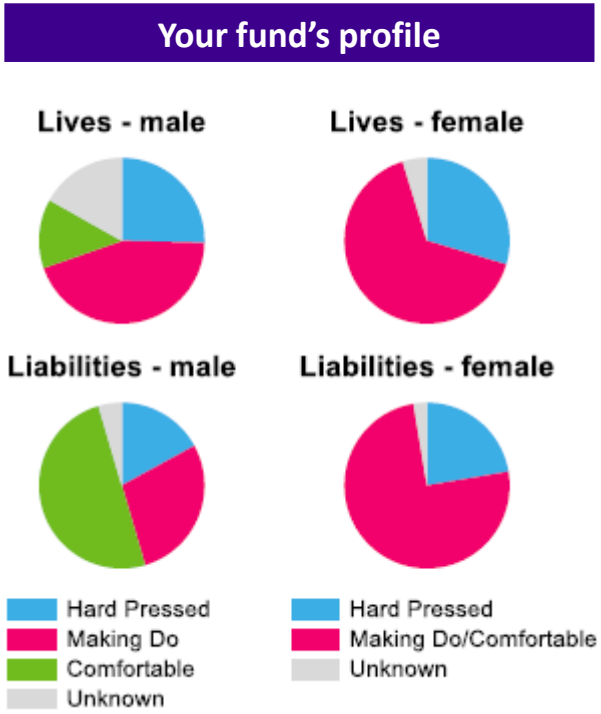
Socio-economics

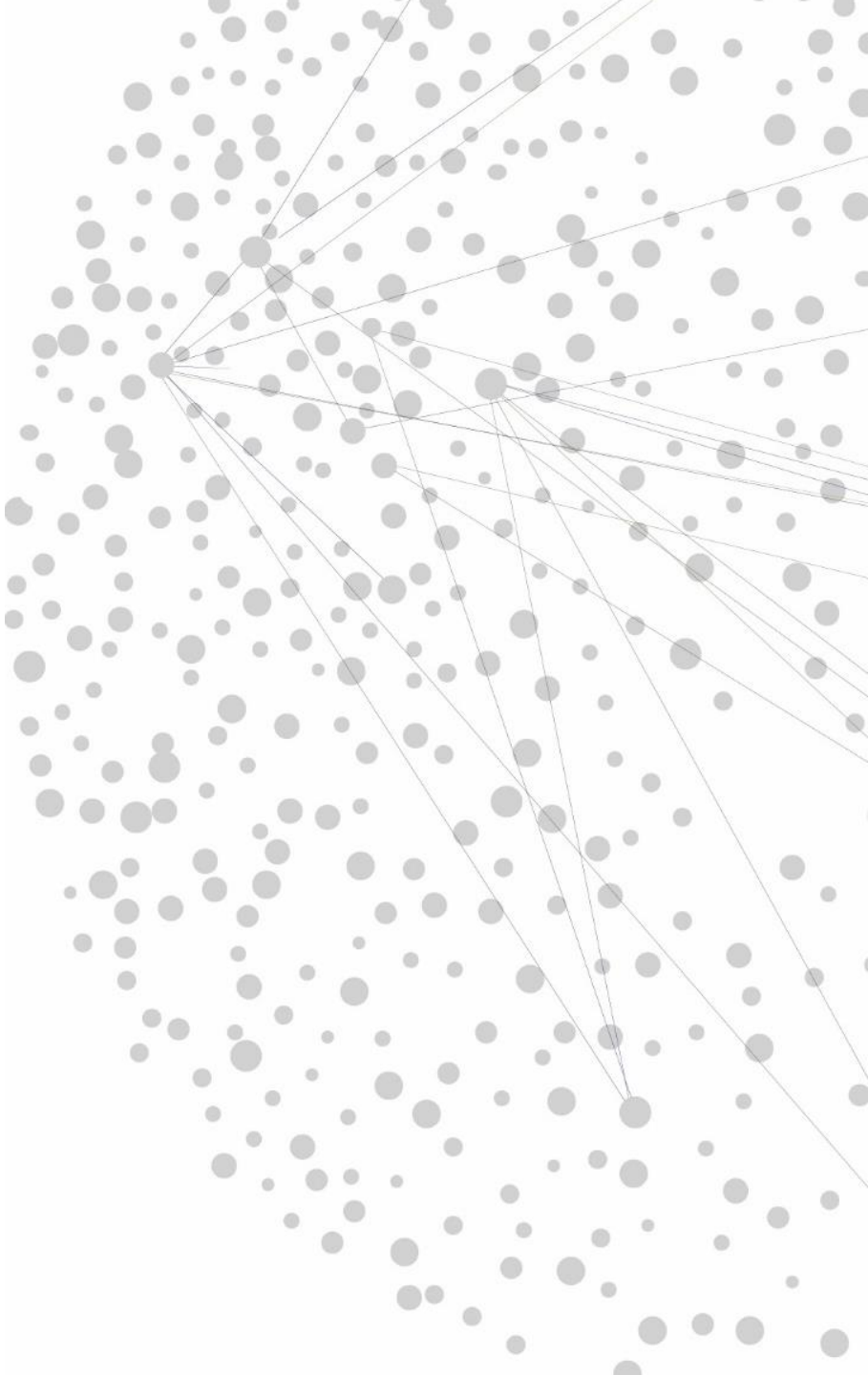
Change in life expectancy between 2012-2014 and 2015-2017



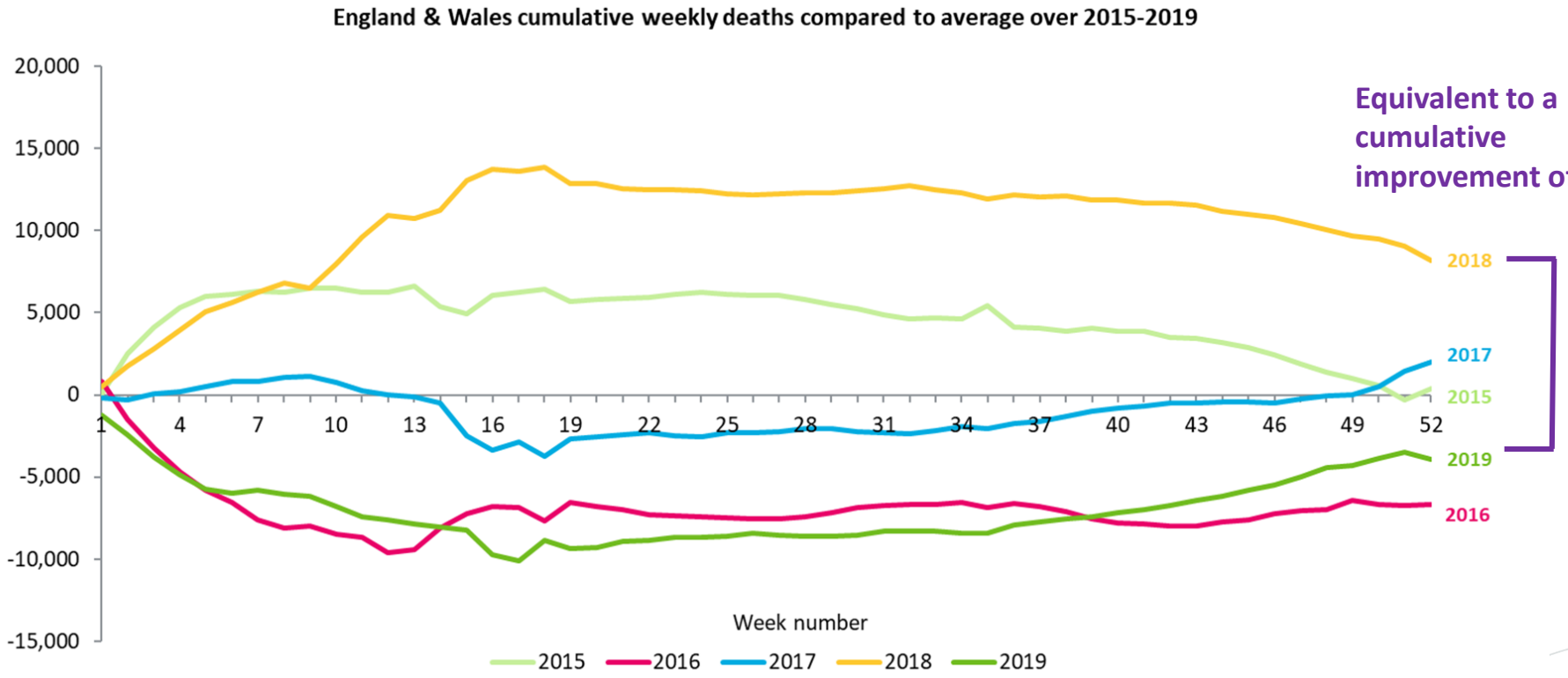


Evidence that comfortable members are more resilient to slowdown – ensure assumptions reflect this

Longevity trends: 2019 and 2020

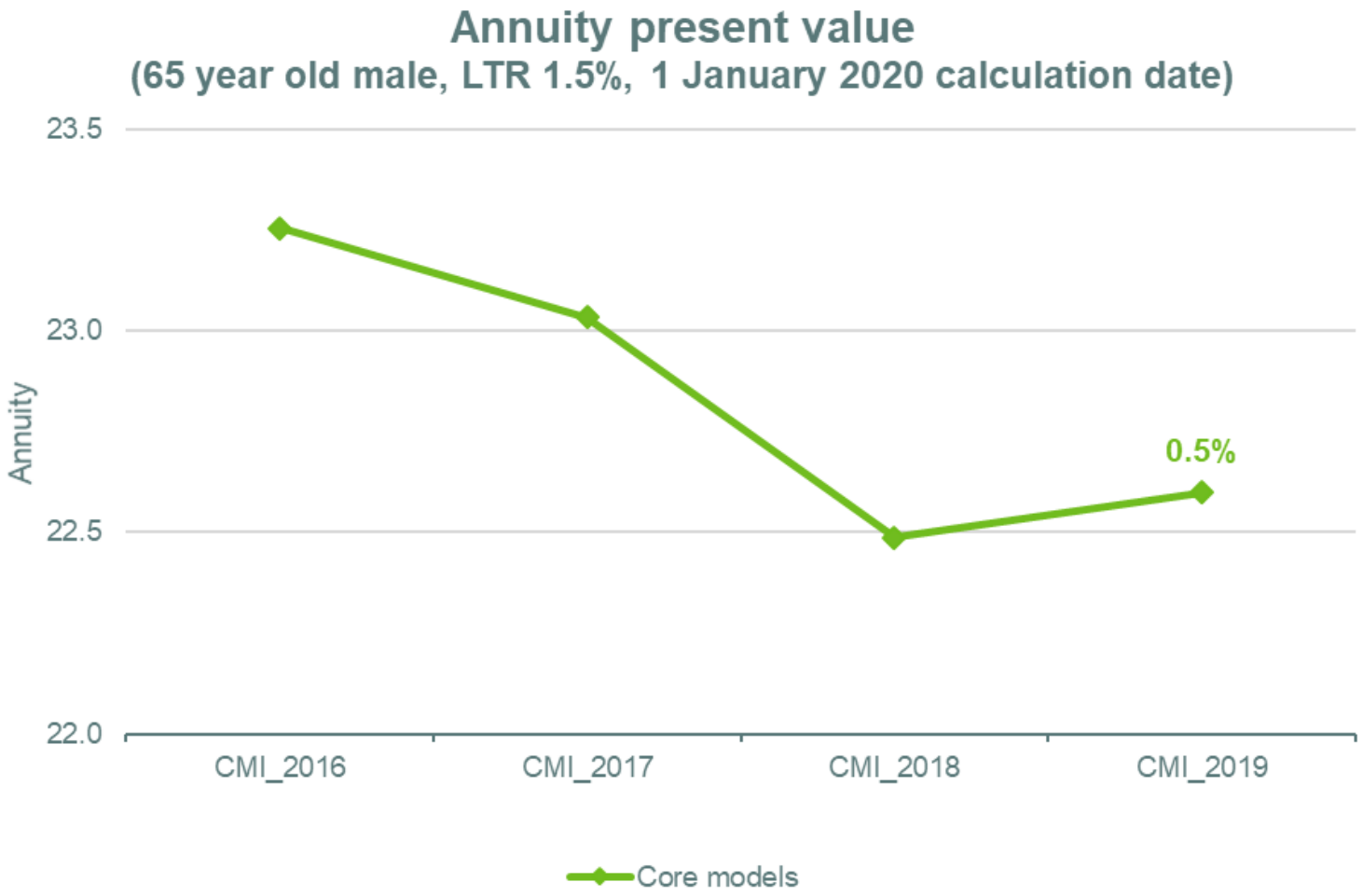


2019 bucks the trend



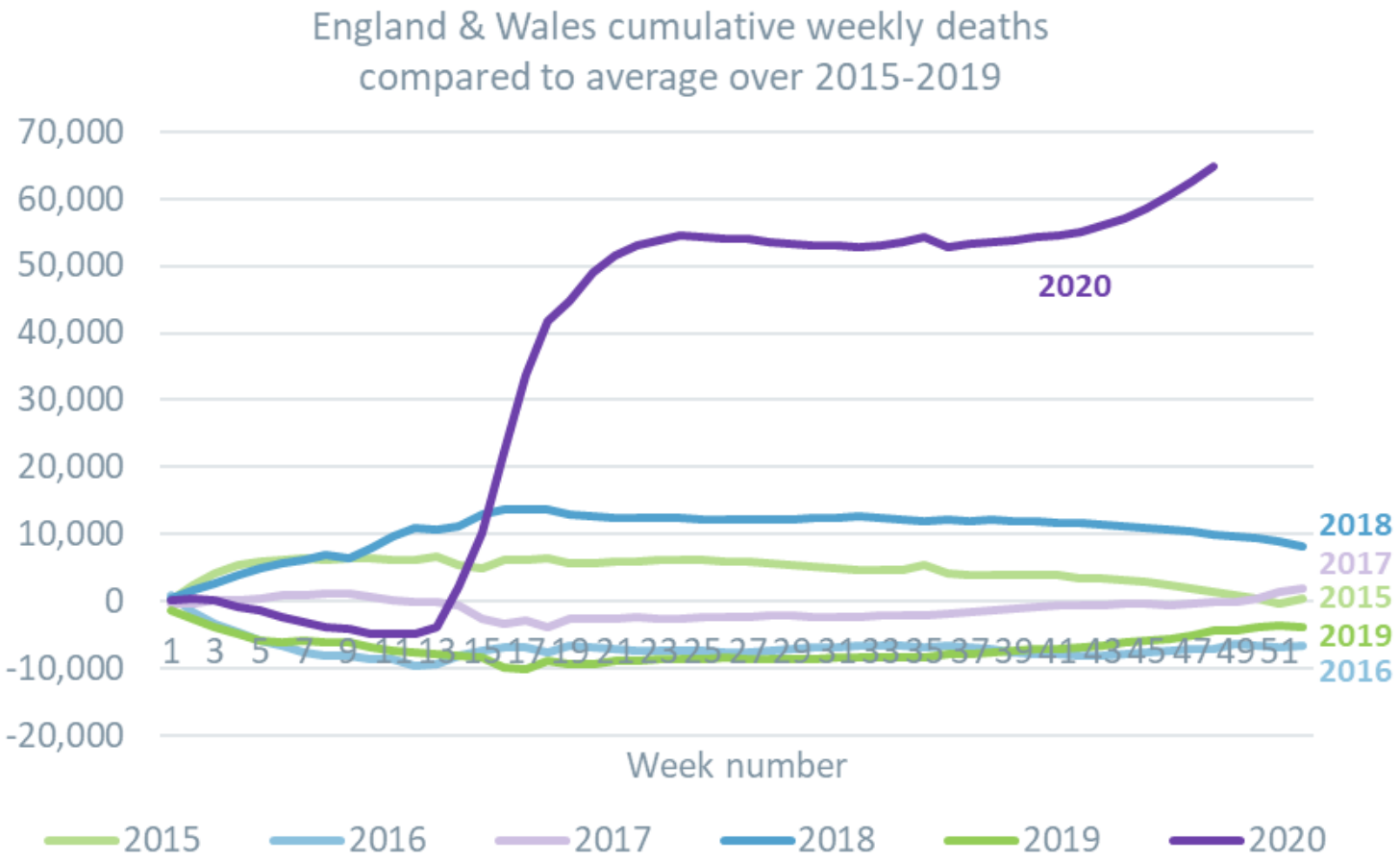
Source: Based on ONS weekly death data

What does this mean for liabilities?



Note: The annuity values shown are for men at age 65, based on the S3PMA base table, with a net interest rate of 0% p.a. and assuming a long term rate of 1.5% p.a. in each case. Calculations were carried out using the published CMI_2018 model, and the E&W population data included with that model. CMI_2019 values are estimated based on fitting the model to 1979 to 2019, where the exposures and deaths in 2019 have been estimated in line with the CMI's published methodology. The calculation date is set to 1 January 2020 throughout.

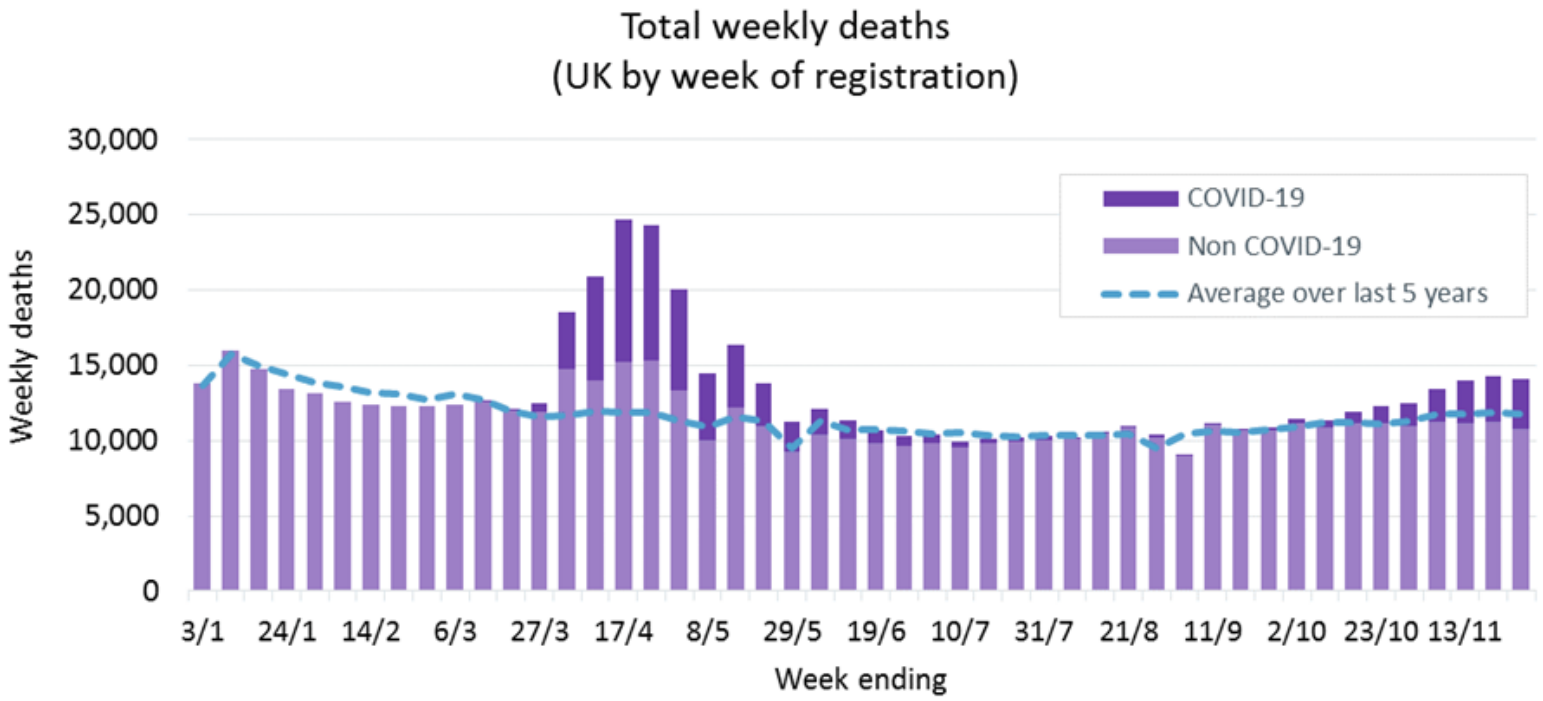
What about 2020?



Source: ONS

COVID-19

Direct loss of life



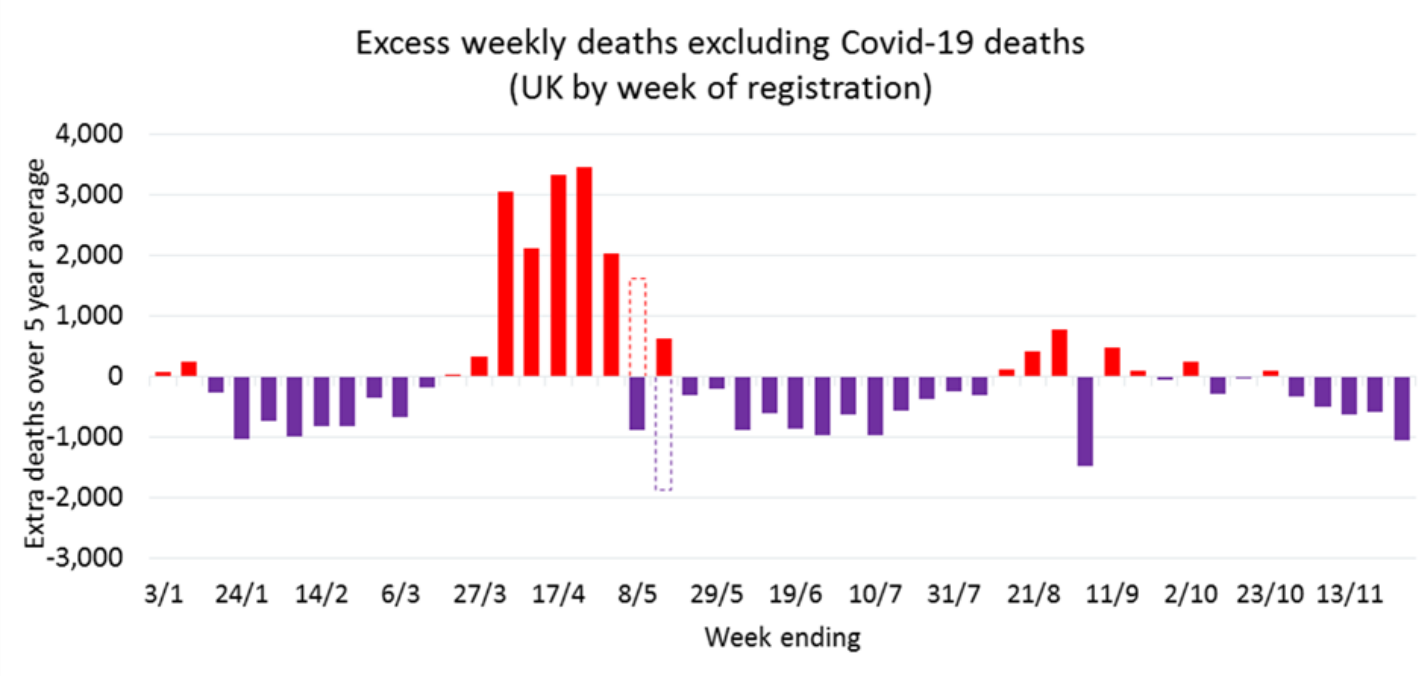
Weekly figures for Scotland use a different definition of weeks, running from Monday to Sunday rather than Saturday to Friday. The chart above is based on using the Scottish data for the week ending on the Sunday immediately after the date shown on the horizontal axis.

Missing deaths: Direct loss of life could be 30% higher than official government statistics

Source: Club Vita's analysis of ONS/NRS/NISRA data to 27th November and official govt figures

COVID-19

Indirect loss of life



Notes:
1: Whilst Scotland started easing lockdown on 28th May, this was the first of three phases of lifting restrictions (to date), with subsequent phases beginning on 19th June and 10th July. Scotland continues to have more restrictions in place than England, for example on when essential offices may open.
2: As the first Bank Holiday in May was moved to Friday the 8th to mark VE Day, there was a more material impact on death registrations than usual for Monday bank holidays, as there was no time for 'catch up' before Friday. As a result deaths in that week were artificially low, while there was a 'catch up' the following week ending 15th May. We have illustrated what the adjusted figures may have looked like using the dashed lines in those two weeks.

Significant 'non COVID' deaths 20%-30% above seasonal averages

Source: Club Vita's analysis of ONS/NRS/NISRA data to 27th November and official govt figures

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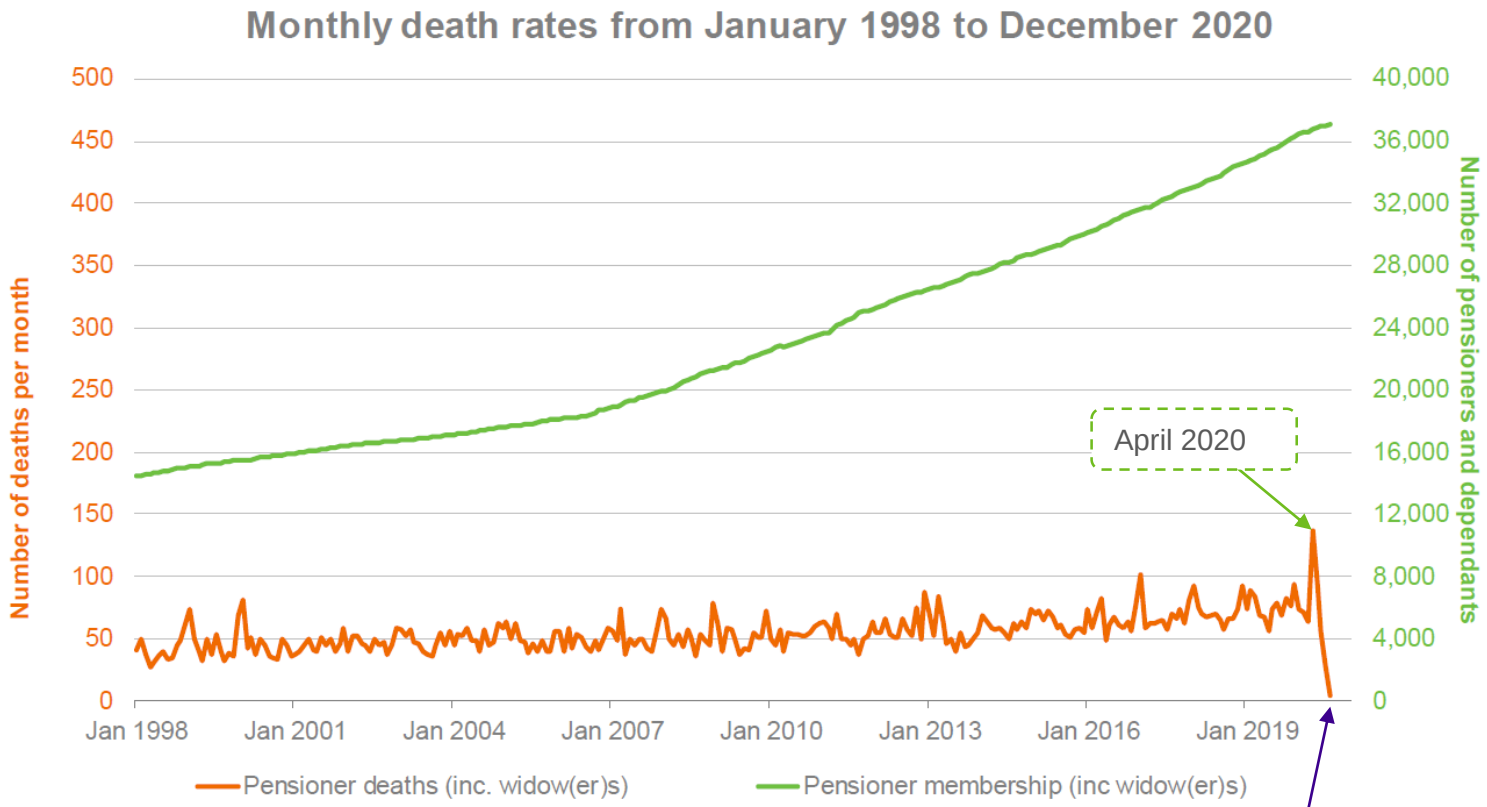
COVID-19

Fund specific mortality spike?



To be expected as it usually takes some time for deaths to be reported and recorded on administration systems

Source: Staffordshire Pension Fund VitaCleansing report dated October 2020

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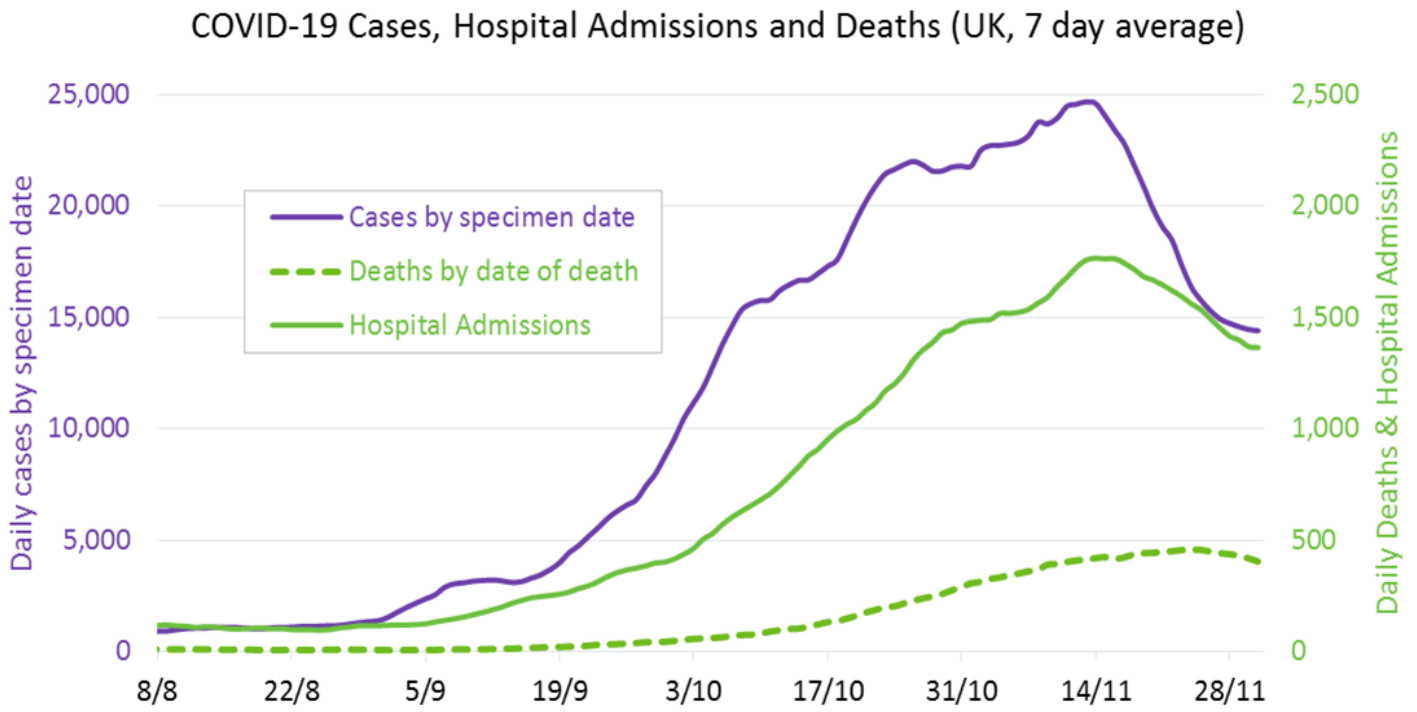
COVID-19

Why look at cases?



Cases figures are the daily number of people with at least one lab-confirmed positive COVID-19 test result, by specimen date.
Deaths figures are the number of deaths of people who had a positive test result for COVID-19 and died within 28 days of the first positive test, by date of death.
Hospital admissions show the daily numbers of COVID-19 patients admitted to hospital
Figures are averages for the 7 day period ending on the date shown.

Cases can act as an indicator of imminent hospitalisation requirements and ultimately deaths

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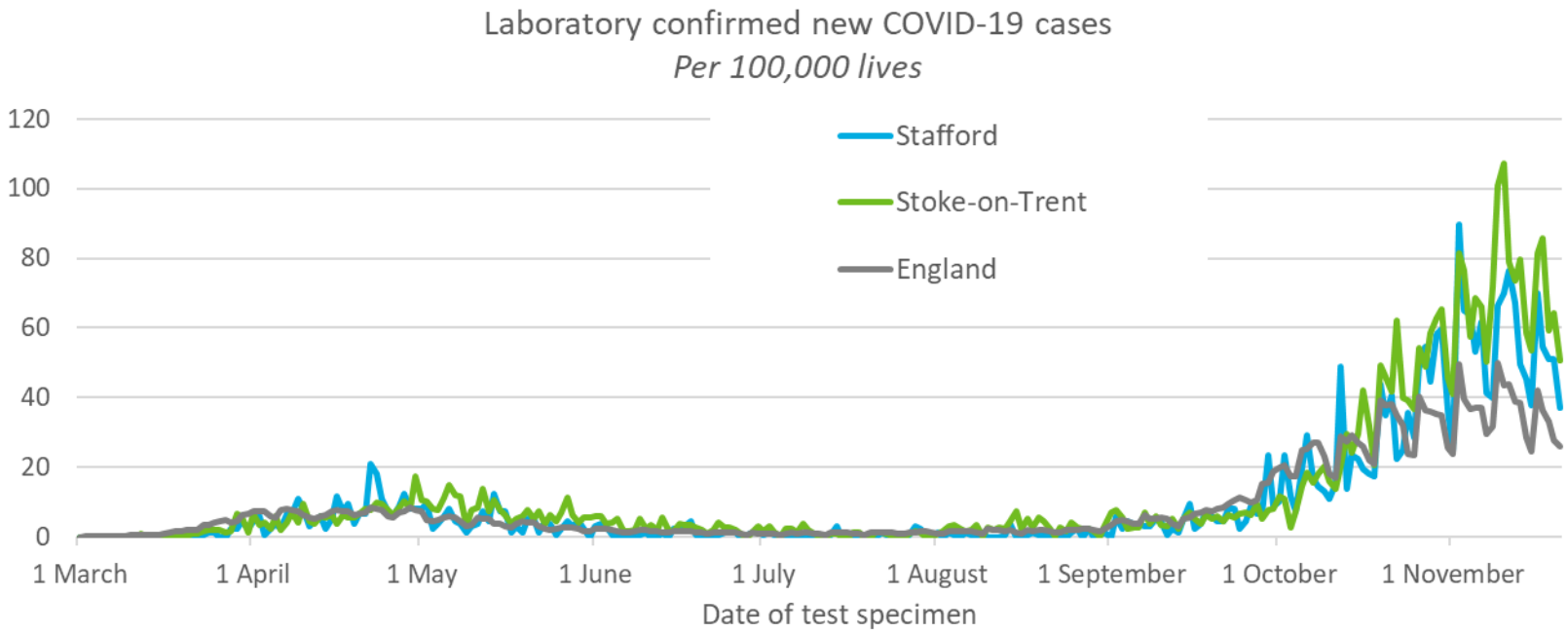
Source: Club Vita's analysis of ONS/NRS/NISRA data to 27th November and official govt figures

COVID-19

Local Cases



Source: https://coronavirus.data.gov.uk/about-data#england to 24 November

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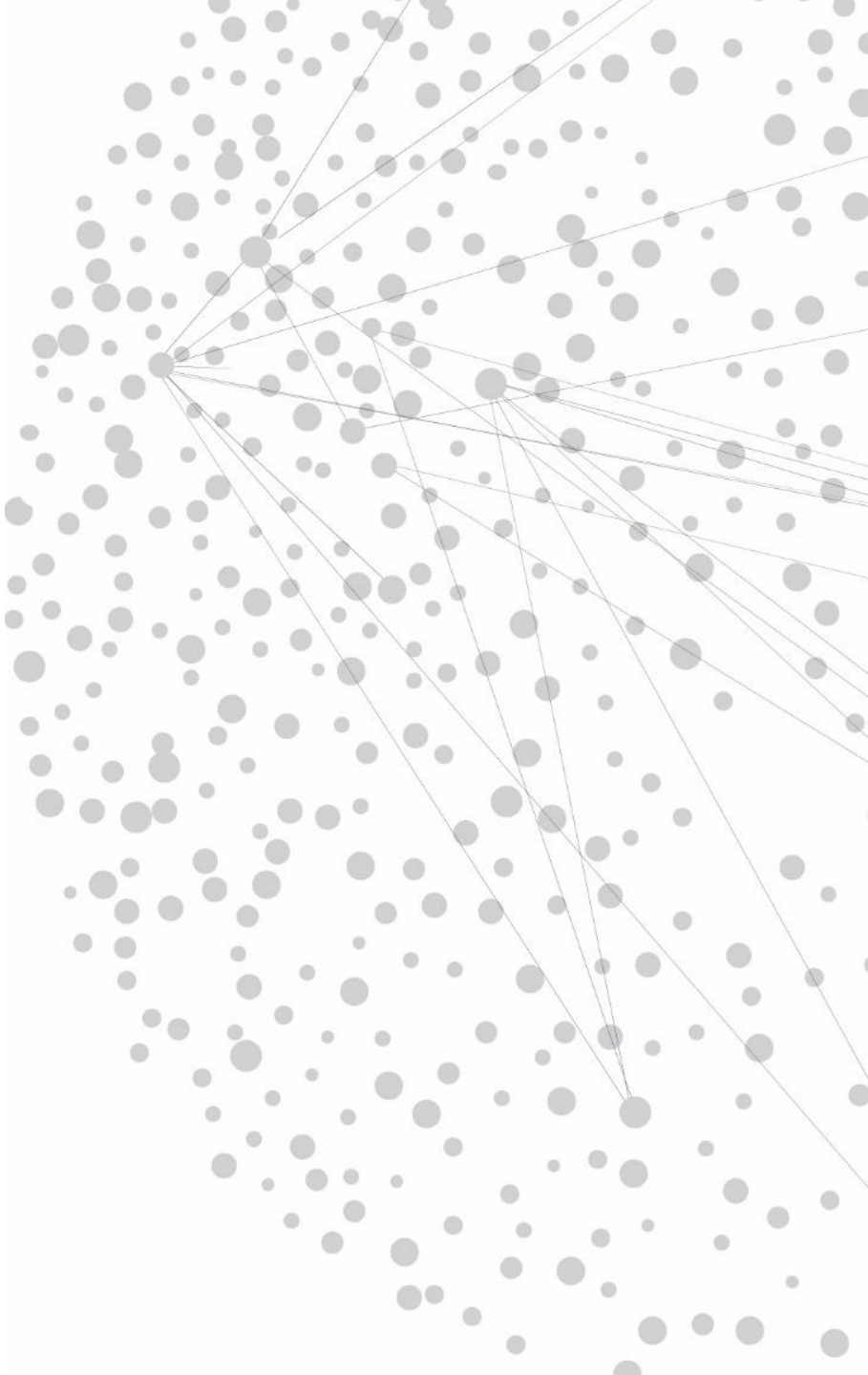
What does this mean for pension funds?



The impact on pension funds

Impact on scheme membership will vary depending on:

- Gender
- Age
- Health
- Region
- Socio-economic mix

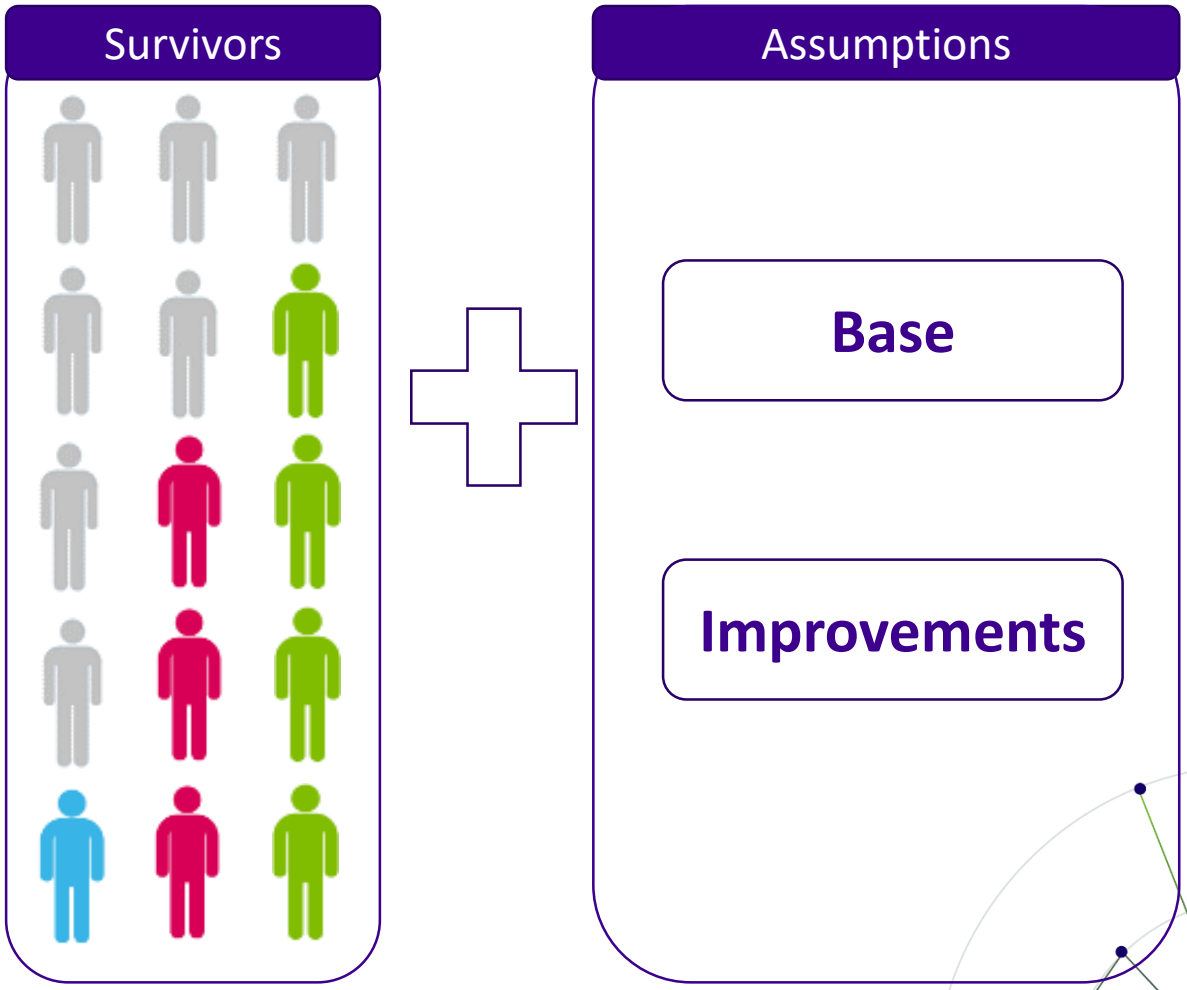


Image stylised for purposes of illustration.

Key drivers of long term uncertainty

Lower longevity improvements

Short term risk of COVID-19
There is a risk that we see further waves of infection as social distancing measures are relaxed

Long term risk of COVID-19
Disease could continue to be a risk without finding an effective vaccine.

Impaired long-term health
The long term health of those who were infected with COVID-19 but survived the virus might be damaged.

Disruption to non-COVID care
Deterioration of patients with non-coronavirus conditions due to delays in treatment (e.g. cancer)

Global recession
A global recession may impact future public sector spending in health care.

Higher longevity improvements

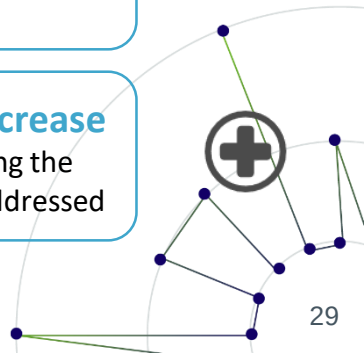
Survivorship bias
The average health of the surviving population could be higher in the years following the outbreak.

Reduced circulation of flu
Change in social behaviour (e.g. increased handwashing) may reduce prevalence of flu and other infectious diseases in future.

Reduction in air pollution
Change in social behaviour may result in the reductions to air pollution persisting.

Reduction in smoking
Disease may have encouraged existing smokers to stop

Health/social care funding increase
Issues with funding unearthed during the pandemic may be more likely to be addressed



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COVID-19:

Coming soon: Scenario analysis and mortality screening

Geography: 

Scheme: *XYZ Pension Scheme*

Demographics:

Hard Pressed | Making - Do | Comfortable

Severity: 0% – 100% — +25%

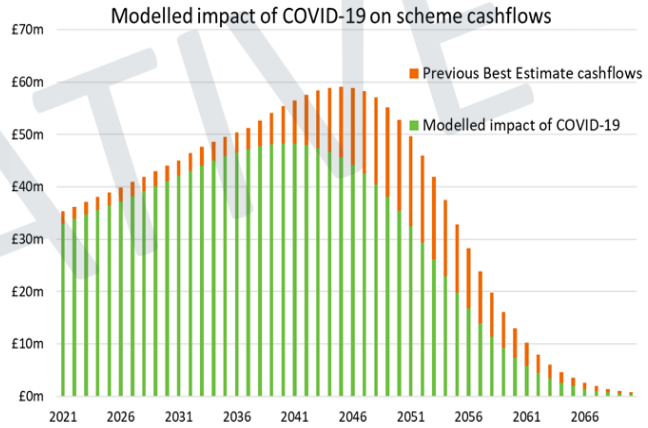
COVID-19 will increase 2020 deaths in overall population by 25% compared with prior best estimate.

Selectiveness: 0x – 3x — x1.5

Individuals in poor health are **1.5x** more likely to die of COVID-19 compared with overall population.*

Impairment: 0% – 100% — +25%

On average, the surviving population will have 25% higher mortality rate as a result of medical conditions related to COVID-19 exposure.



Reduction in PV	1.5%		
Reduction in LE65 (men)	Hard Pressed	Making Do	Comfortable
	1.6 (2.1%)	1.1 (1.4%)	0.6 (1.1%)
Reduction in duration	-2.7 years		

Scenario analysis and more timely data from Club Vita can help identify early warning signals

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Any questions?

Check out our *"Lexicon of Longevity"* for definitions of technical terms used in longevity transactions.

Club Vita webinar series
including Climate change – Hot and Bothered, COVID-19 and Public Sector vs Private Sector research

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Appendix

CLUB VITA's data bank

Records for over 3 million UK pensioners

covering over 1 in 4 DB pensioners

Relationships with over 235 large pension schemes

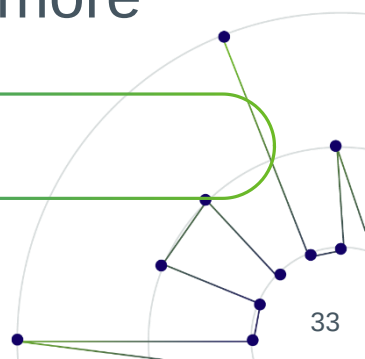
with over £300 billion of liabilities

Over 1.5m death records

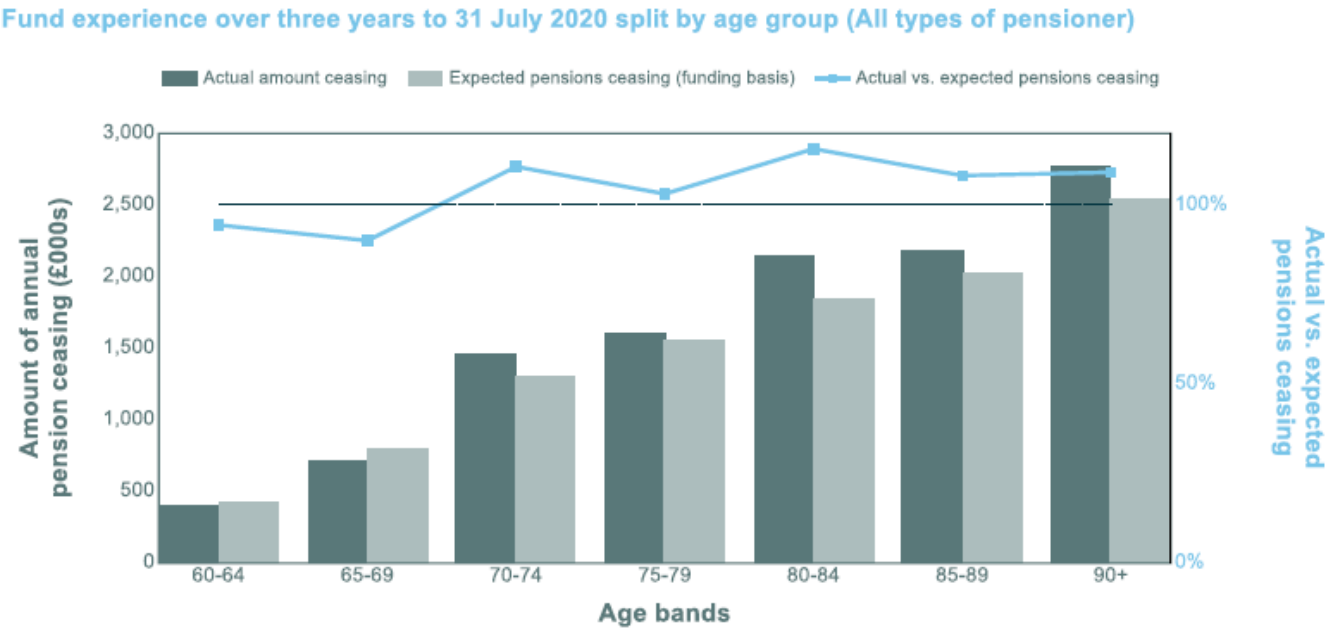
stretching back 25+ years

Segmented by affluence, postcode, health and more

Richest, most flexible and most relevant data



Fund longevity experience



The table below shows **the impact of your fund's experience since the last valuation** (as at 31 March 2019) **has been to decrease your liabilities by 0.1%.**

	Year ending			Since last valuation
	31 Jul 2020	31 Jul 2019	31 Jul 2018	
Extra (less) pension in payment at year end (£k)	(636)	(15)	(224)	(641)
Estimated % increase (decrease) in liabilities	(0.1%)	0.0%	0.0%	(0.1%)

Longevity Scenario testing

Lower trend scenarios | Central (ish) scenarios | Higher trend scenarios

Back to the fifties

Back to the Fifties (-14%)
Life expectancy shows a prolonged and material decline for all groups

Challenging times

Challenging Times (-5%)
Climate change and resource constraints significantly impact on life expectancy

Alzheimer's wave

Alzheimer's Wave (+3%)
Deaths attributed to Alzheimer's increase rapidly over 5 years before a 'cure' is found.

Health cascade

Health Cascade (+3%)
Uptake of healthy behaviours cascades from wealthier to poorer individuals.

Cancer revolution

Cancer Revolution (+6%)
Following a period of modest improvements, a 'cure' for cancer is released in 2027.

80 is the new 60

80 is the new 60 (+25%)
Mortality rates for 80 year olds fall over time to levels seen by current 60 year olds

How might the current trend change?