

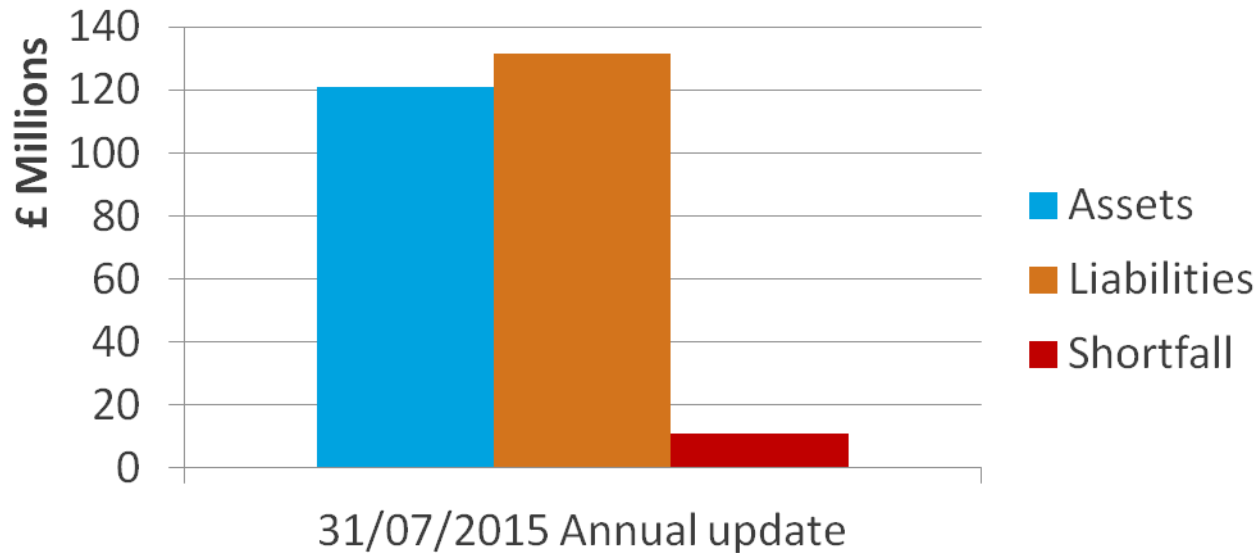


# University of Aberdeen Superannuation and Life Assurance Scheme

Member presentation – Longevity / Life expectancy  
6 June 2017

Jonathan Seed, Scheme Actuary

# UASLAS - overview



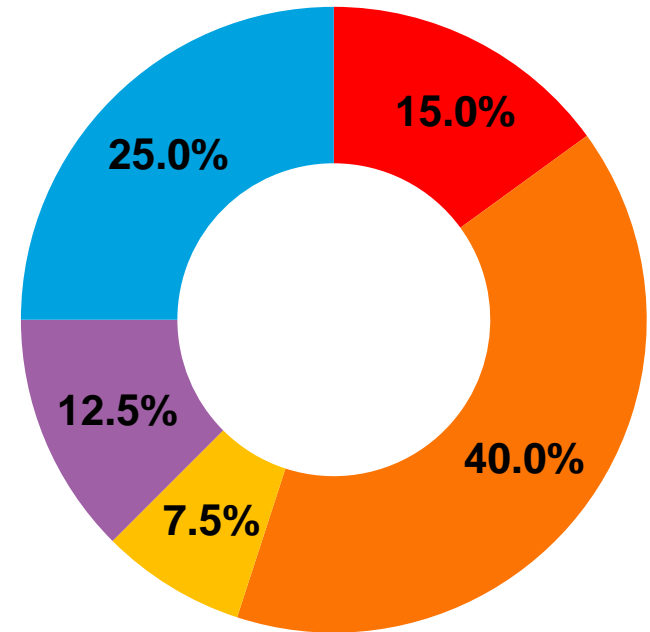
- A pension scheme has two key numbers associated with it:
  - The value of its '**assets**' – the 'money' the scheme holds
  - And the value of its '**liabilities**' – how much money the scheme needs, in order to pay all the pensions that have been promised



Last year – we talked about assets, and how they are invested

# Assets – a recap from last year

- The Trustees invest the Scheme assets in a mix of asset types, as set out in a formal Scheme document (the ‘Statement of Investment Principles’)
- The assets are expected to grow over time, to help meet the cost of paying out pensions
- The University pays the ‘shortfall’ if one arises
- Looking into the future, the return on assets is difficult to predict



- UK Equity
- Overseas Equity
- Property
- Diversified Growth
- Index-linked gilts



This year – let's talk about liabilities

# This year we're going to talk about the liability side

- Liabilities
  - The amount of money that a pension scheme needs to hold to pay benefits in full to ALL members
- This is actually easier to predict than the future return on assets
- We know with some degree of confidence how much pension has been promised (accrued) to date
- We know roughly when people will retire
- So we can look to the future and (with the help of some assumptions) work out what the Scheme expects to pay out over time



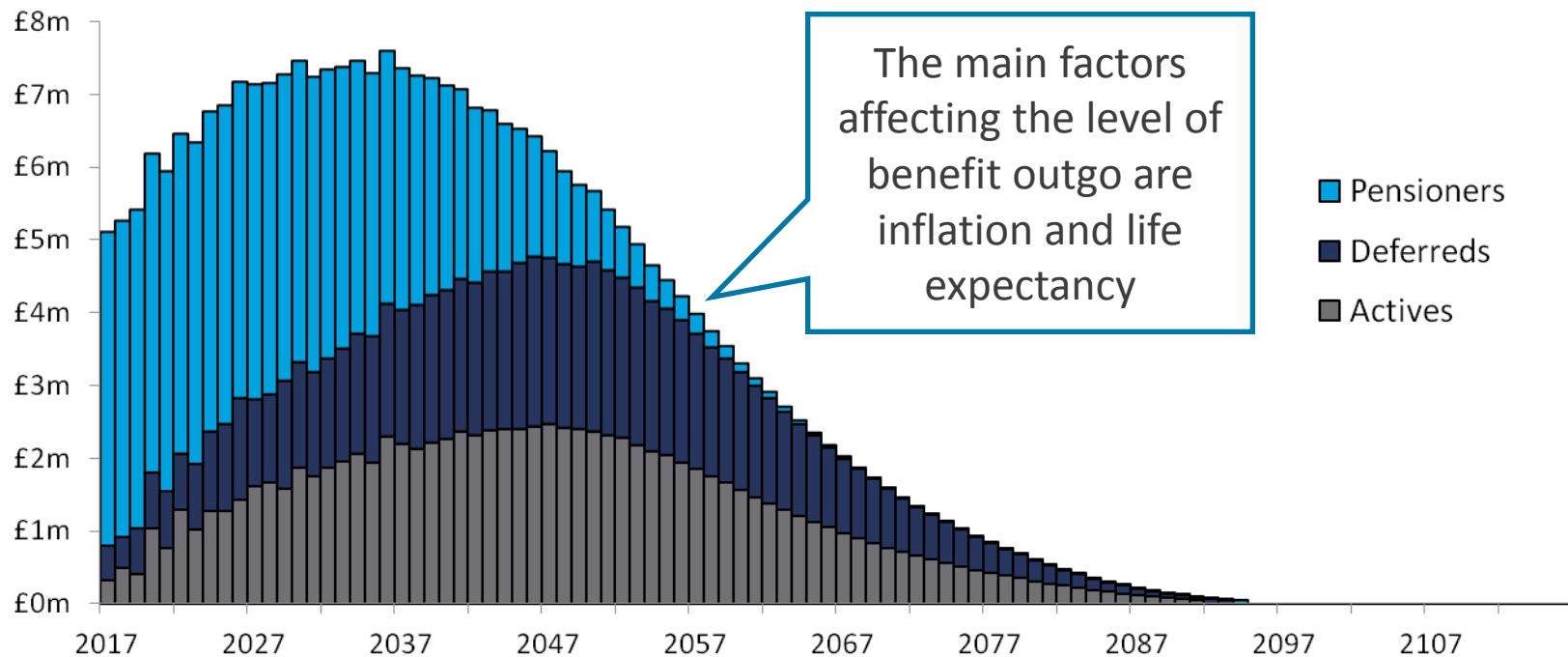
What are the scheme benefits?

# Scheme benefits

- The Scheme promises to pay each member the following:
  - **A pension for life** of  $1/80^{\text{th}}$  of final salary for each year of pensionable service up to 1 August 2011 plus  $1/80^{\text{th}}$  of revalued average salary for each year of service from 1 August 2011
  - **A cash sum at retirement** of 3 times this amount
- So the two key factors for estimating the benefits that will be paid are:
  - What will **inflation / salary increases** be between now and the member's retirement?
  - How long will the member be paid this pension for?  
i.e. **How long will they live?**



# Scheme benefits – what do they look like?



*The Graph shows projected annual benefit outgo from the Scheme*

- **Annual outgo** is projected to increase from £5m to £7.5m in early 2030s and then slowly tail off
- **Total future outgo** is estimated to be approximately £300m
- **Existing assets** of circa £150m plus future returns plus deficit contributions expected to be sufficient to meet all outgo

# Longevity

*“the length or duration of life”*

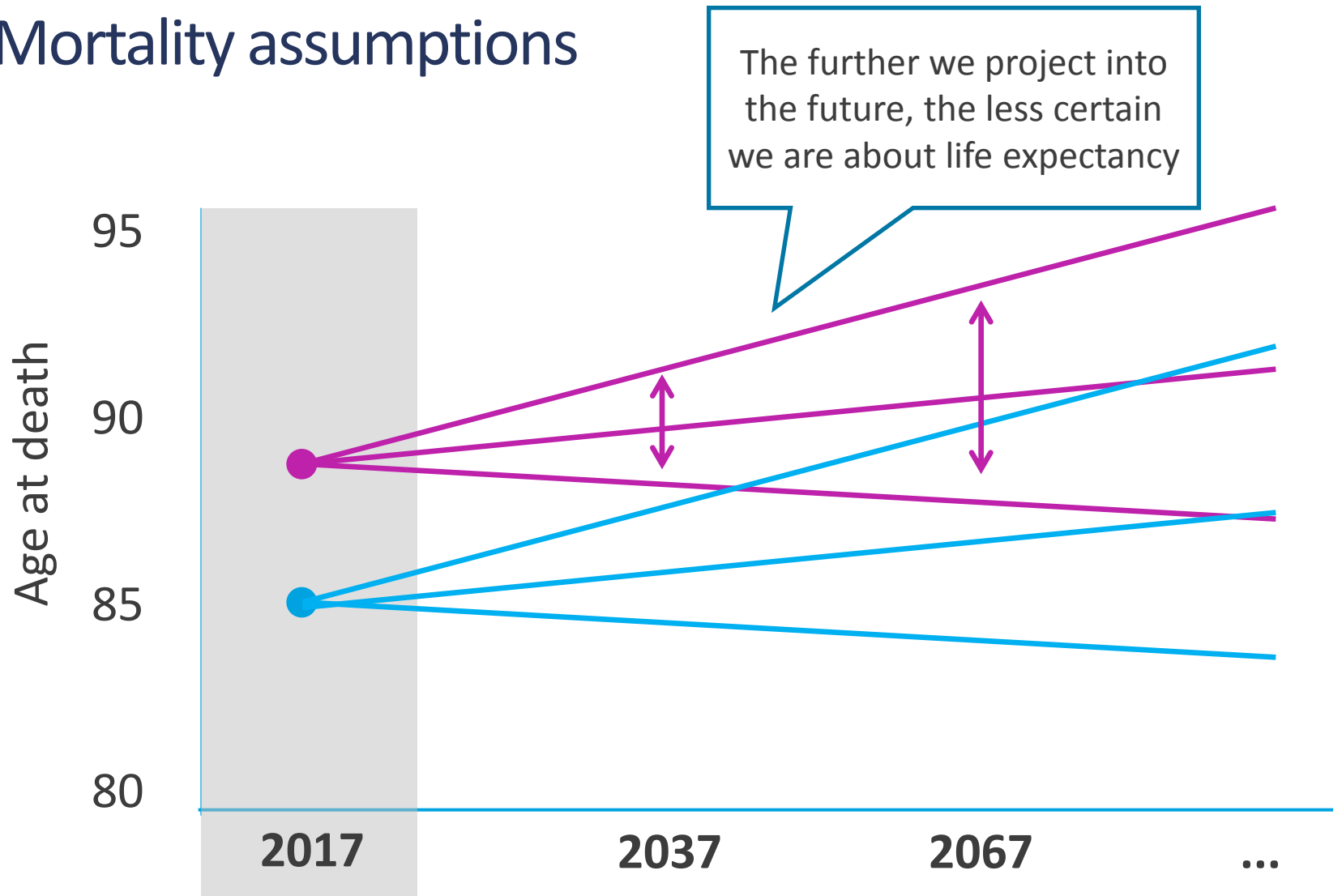
Commonly called ‘life expectancy’

# Meet Jeanne Calment

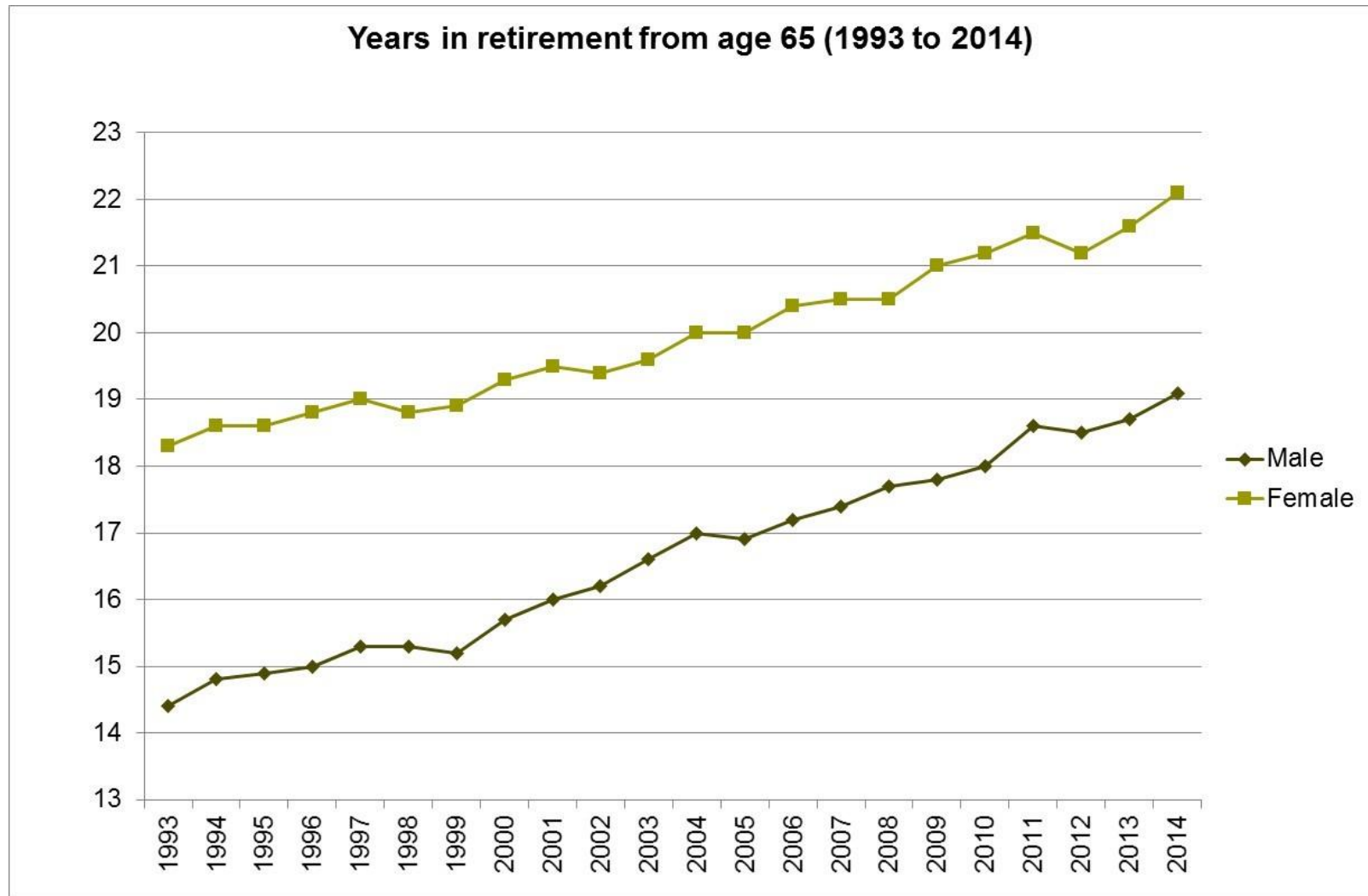




# Mortality assumptions



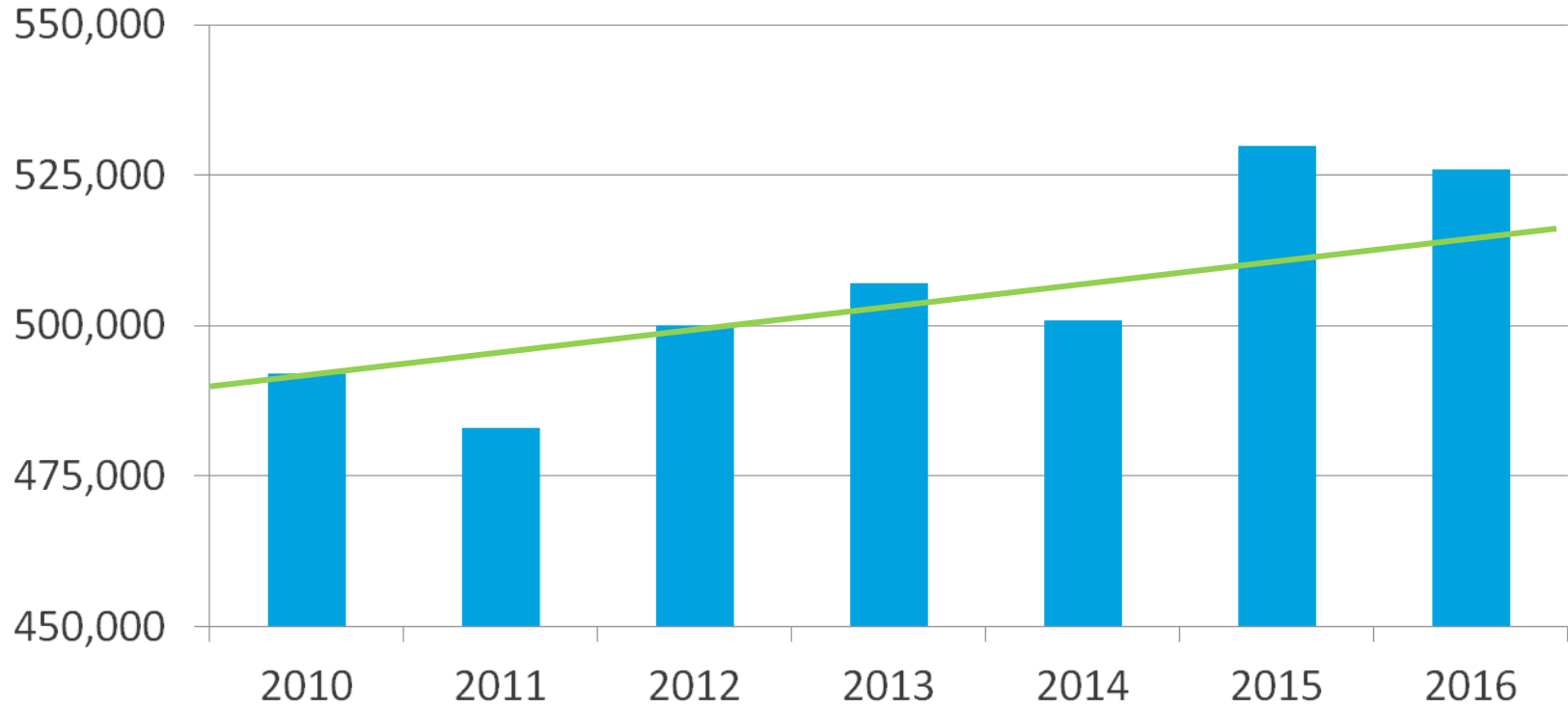
# NEWSFLASH – people are living for longer



Source – LGPS Scheme Annual Report 2015

# Is the tide turning?

## Deaths in England & Wales



Source – Office for National Statistics



# What might cause lower than expected lifespans?



**Resource scarcity**



**Obesity**



**Smoking**



**Superbugs**

# What might cause higher than expected lifespans?



**Government intervention**

**Medical innovation**



**Genome mapping**

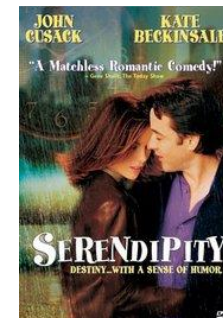


**Regenerative medicine**



**Superdrugs**

**Serendipity**



Thank you – any questions?



# The risk of paying “for life”



1965

1975

1985

1995

*"In life, one sometimes makes bad deals,"*

# Factors affecting lifespan, in order of importance

Factor	Influence on life expectancy	Usefulness as a proxy variable in pensions
Age	Very high	Very high
Gender	Very high	Very high
Medical history	Very high	Very low
Genetics	High	Very low
Smoking status	High	Very low
Diet	High	Very low
Obesity	High	Very low
Occupation	High	Moderate
Alcohol consumption	Moderate	Very low
Regular exercise	Moderate	Very low

# Factors affecting lifespan, in order of importance

Factor	Influence on life expectancy	Usefulness as a proxy variable in pensions
Exposure to stress	Moderate	Very low
Wealth	Moderate	Very low
Marital status	Moderate	Moderate
Education	Moderate	Low
Medical underwriting	Low	Very low
Family medical history	Low	Very low
Geographical location	Low	Low
Postcode	Low	High
Benefit amount	Low	High