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Medically underwritten bulk annuities

Is your solvency valuation 10% too high?

Costas Yiasoumi FIA, Partnership
costas.yiasoumi@partnership.co.uk

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The agenda

1. I will firstly explain why supplying medical and lifestyle data to an insurer is likely to result in lower pricing <u>on average</u>

2. Then I'll describe how medically underwritten bulk annuities are used in practice

3. Finally, I'll finish with a few thoughts on the new issues pension actuaries may now face given the arrival of medically underwritten bulk annuities

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Introduction

- Pension actuaries estimate bulk annuity costs for various purposes
- Those estimates are typically used to assist trustees and employers in planning funding, asset strategy and journey plans
- Estimates are typically based on in-house assumptions derived from back-solving actual bulk annuity quotes and/or via assumptions supplied by insurers
- Crucially, these assumptions stem from traditionally priced bulk annuities
- Medical underwriting is not an incremental change to bulk annuity pricing. **It is a leap to a completely new pricing method**. It is a methodology in which (for example) medical history can be more important for pricing than gender

The result is that in some cases estimated bulk annuity costs, following traditional methodology, may be as much as 10% too high

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An introduction to:

Increased data = increased confidence = less conservative = lower premium

Tony would like to buy car insurance.

He goes to an insurer and simply tells them:

"*I'm a 55 year old male who lives in WC1V 2AH and have a car worth £20,000*."

The insurer is cautious so as to protect their solvency position and profit. For all they know Tony is driving a Mitsubishi Evo, has an awful claims history and nine points on his license.

The result is a big premium.

Tony learns his lesson. He re-approaches the insurer:

"*I'm a 55 year old single male actuary, I drive a Ford Focus and have a normal driving record. For good measure here's my answer to another 250 rating factors*."

The result: fairer premiums which are, on average, lower across all consumers

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What is a medically underwritten bulk annuity?

Medically underwritten bulk annuity = **Traditional bulk annuity (buy-in or buy-out)** + **Members' actual medical and lifestyle features captured in the premium**

A medically underwritten bulk annuity is practically identical to a traditional bulk annuity. The only difference is that additional underwriting information is sought

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Increased data = increased confidence = less conservative = lower premium

There is huge uncertainty around how long individuals are likely to live

Individuals = uncertainty

Small schemes = uncertainty

Large schemes = less uncertainty

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(1) Source: Projected lifespans are derived from the ONS 2012-based principal projection for the UK population

Increased data = increased confidence = less conservative = lower premium

Partnership's historic annuity mortality experience(1)

A consistent emerging experience of slightly more actual deaths than expected

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(1) Expected deaths as determined by mortality assumptions used for the IFRS valuation at 31 December 2013. Includes all annuity products sold by Partnership

Increased data = increased confidence = less conservative = lower premium

The impact of medical underwriting

Bulk annuity cost

Bulk annuity cost	The impact of medical underwriting
3. Capital / prudence	This is lower
2. Other eg expenses	No change
1. Best estimate claims ie pensions	On average, unchanged … … medical and lifestyle data results in a wider variation of best estimate claims between pension plans, but it is a "50/50" distribution

The way in which insurers set bulk annuity pricing is, of course, far more complex than illustrated here. And life expectancy is one of a few key "ingredients" to pricing

Nevertheless, there are sound reasons to expect that medically underwritten bulk annuities should on average lead to lower pricing, except for very large pension schemes

"…medically underwriting a BPA can offer schemes savings of about 10% – much more in certain cases – relative to the cost of conventional underwriting"
'A healthier way to de-risk', CASS and the Pensions Institute, February 2013

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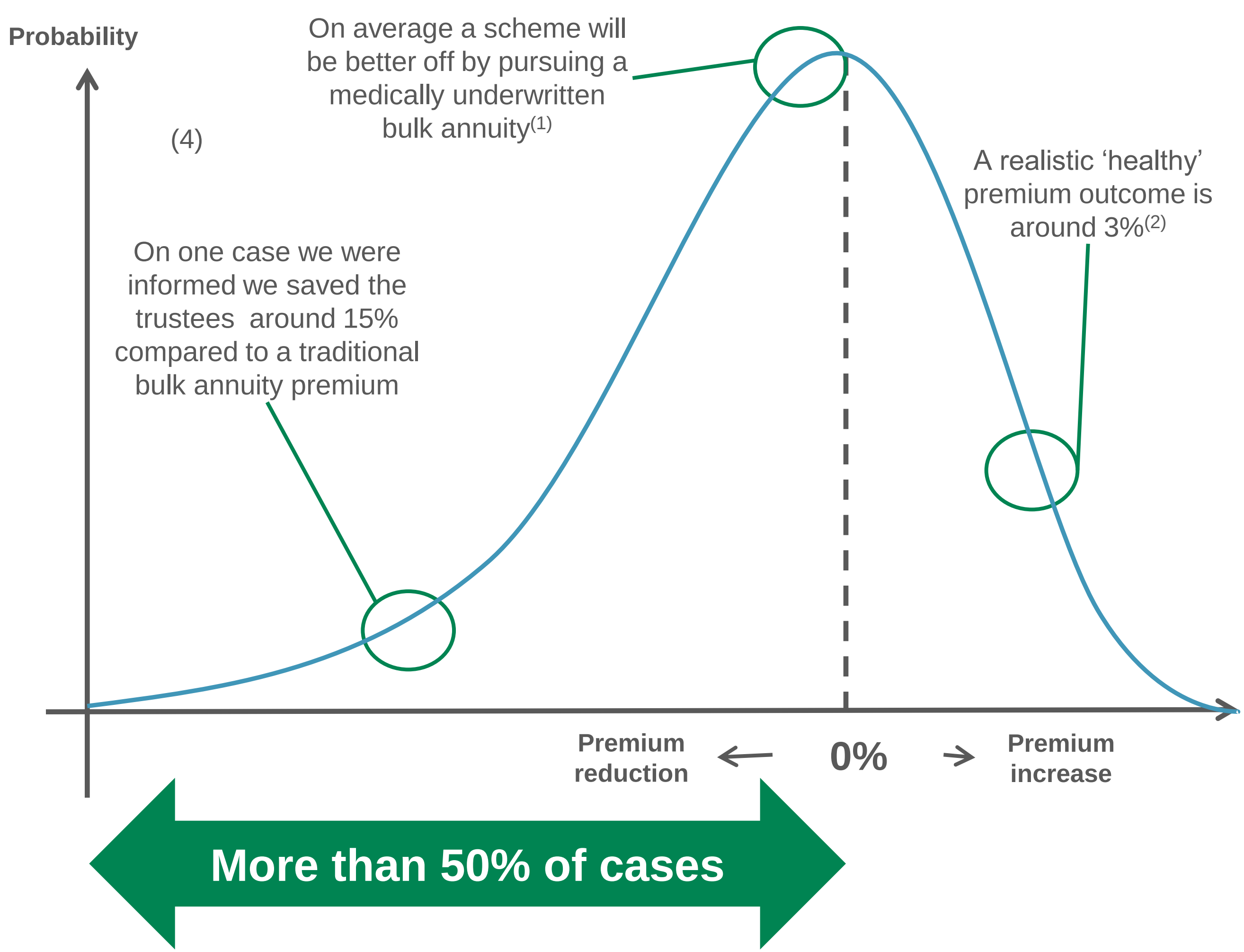
Increased data = increased confidence = less conservative = lower premium



EXPERIENCE SUPPORTS THIS[3]

"Pricing continued to be materially more attractive than in the traditional market – savings of 5-10% are typical"
AON Hewitt, May 2015

"Often over 5% cheaper than traditional buy-ins"
Hymans Robertson, March 2015

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(1) Increased data means increased confidence so an insurer can be less conservative and hold less capital. (2) Based on Partnership analysis of realistic scenarios following medical underwriting, as at Sept. 2014. (3) Quotates from Aon Hewitt's "Risk Settlement Market 2015" publication and Hymans Robertson's April 2015 "Medical underwritten buy-ins – market insights" publication. (4) Graph for illustration purposes only – not an actual distribution

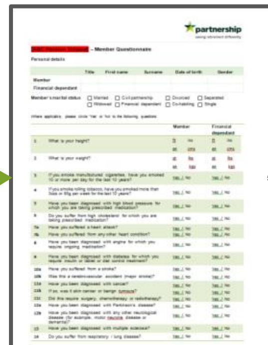
Medical underwriting in practice

40% by member

80% by liability

More than £1,500 pa

Short form issued to members



70%
Answer 'yes' to one or more question(1)

Follow up medical data might be sought

- GP Report, and/or
- Telephone interview

Underwritten, and classified as impaired
1

23% by member
45% by liability

30%
Answer 'no' to all questions

Underwritten, classified as not impaired
2

9% by member
19% by liability

60% by member

20% by liability

Less than £1,500pa(3)

Experience is that only c.20% of members don't respond(2)

Members with small benefit entitlements have a limited impact on the premium and so are typically not approached for underwriting information

Insured on non-underwritten terms
3

68% by member
36% by liability

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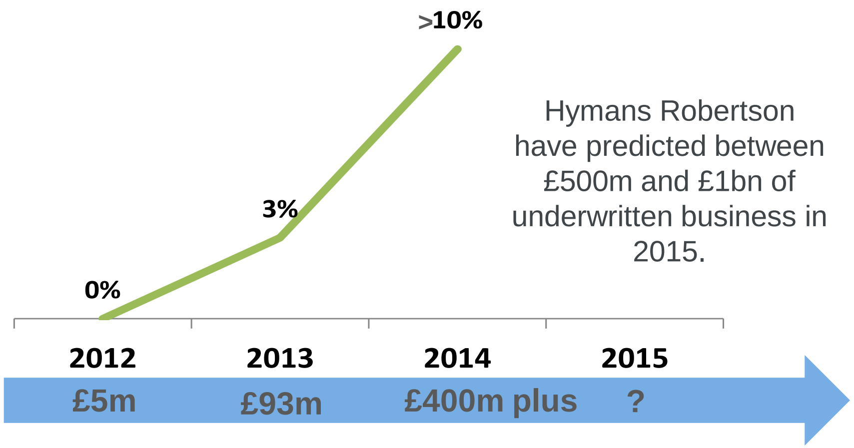
(1) Analysis as at January 2015 shows that c70% of members have one or more qualifying health or lifestyle traits that means their bulk annuity cost can be lowered. (2) Analysis as at October 2014 shows average 80% response rates to the short form on transactions completed by Partnership. (3) The threshold of £1,500 pa is an illustration of what is typical. Different thresholds are used for different transactions depending on various factors

Medically underwritten bulk annuities here to stay

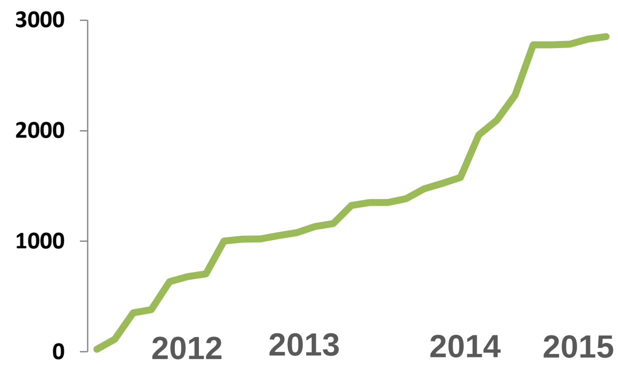
- >10% of the sub £100m deal market was underwritten in 2014, continuing an exponential pattern of growth
- The first case over £100m was transacted in December 2014

Percentage of sub £100 million size bulk annuities that were medically underwritten



Hymans Robertson have predicted between £500m and £1bn of underwritten business in 2015.

Number of lives medically underwritten to date for bulk annuity exercises



60 underwriting exercises

3,000 lives underwritten

Over 40 transactions to date covering upwards of £800m of premium

Four insurers quoting, with three having transacted medically underwritten deals

Over 95% of processes are now undertaken via a common data collection process

93% of underwritten bulk annuities over 2013 and 2014 ended in successful insurer selection(1)

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(1) Partnership Internal analysis

Top end postcodes can be deceiving …
… "top slicing" is also adding to premium volumes

For large liability members a postcode can offer limited insight on life expectancy

By collecting medical and lifestyle data insurers can offer sharper pricing

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All schemes can use top slicing, even the largest

Why top slice?

1. Concentration of benefits drives risk within a scheme = tackle **a primary risk**
2. The benefits of underwriting are more pronounced = **big potential upside** with (probably) limited downside
3. Technical provision **assumptions can be prudent** for these members = release tied up funding
4. Experience shows a real possibility of **transacting below technical provisions** = tackle risk and improve funding
5. **High response rates** can be expected as data collection would be targeted to what should be highly engaged members

Less than £10 million ⟵ **Scheme range** ⟶ **Over £1 billion**

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Case study – Taylor Wimpey Pension Scheme

Largest medically underwritten bulk annuity to date

This landmark transaction, the largest ever medically underwritten bulk annuity in the UK, significantly raises the threshold of deal and pension scheme sizes that had previously been assumed to be suitable for medical underwriting

Date	- December 2014
Scheme background	- £2 billion defined benefit pension scheme - 20,000 members
Deal size	- £206 million – 99 members
Background	- The trustees targeted the concentration risk from the liabilities of the 99 largest pensioners - Average pension size > £50,000 per annum
Process	- The trustees went straight down the medically underwritten route – a traditionally priced bulk annuity was discounted early on - Four insurers were involved - High response rate achieved from pensioners
Outcome	- The pensioners did not have an untypical distribution of health conditions for a top end socio-economic group of members - Trustees transacted at a figure £9.4m below their technical provisions - Implication - medical underwriting saved considerably more than £9.4m against the estimated cost of a traditional bulk annuity

Hedged longevity concentration risk

+

Improved the funding of the scheme

Source: New Model Adviser, 08.12.2014

Source: Money Marketing, 08.12.2014

Source: Pensions Age, 08.12.2014

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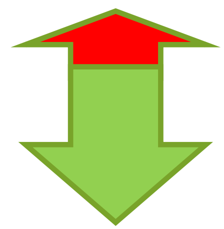
To summarise – medically underwritten bulk annuities mean:

Greater variation of premium

Medical underwriting doesn't rely on proxies for health status e.g. postcode and pension size

Health and lifestyle data means there is less simplification and so there is a reduced 'cross subsidies' between schemes



Some schemes pay less, others pay more

A healthy scheme may pay slightly more than traditional pricing

Whilst an average scheme or scheme in poor health will probably pay less

Lower premiums, on average

Increased data means increased confidence

Increased confidence means insurers are less conservative

Less conservative means a lower premium

Pensioners with large pensions

Traditional pricing is more prudent for members with large benefit entitlements in top-end postcodes

Medical and lifestyle data means tailored pricing

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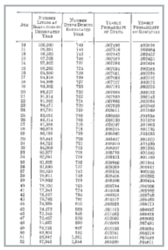
The resulting issues for pension consulting include

Technical provisions basis



Should the mortality assumption be medically underwritten and, if so, by whom?

Some schemes are known to have obtained medical data from pensioners in an attempt to refine their mortality basis

Bulk annuity cost estimates

How should these be determined, given the increased range of where final pricing may fall?

Plausible range of estimates now widened by perhaps -10% to +3%?

Timing for approaching the bulk annuity market

Could some pension schemes be closer to a bulk annuity purchase that they may think?

The actuarial adviser on one of our transactions informed us that the end price was 15% lower than they'd estimated a bulk annuity would cost

Top slicing

Should top slicing be encouraged so as to bring greater stability to scheme funding?

For Taylor Wimpey 2% of pensioners represented 20% of pension liabilities

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… so the solution is for the scheme actuary to obtain medical data?

NO!

- The issue isn’t obtaining the medical and lifestyle data, the issue is how to interpret it
- Without an extensive historical dataset, that medical and lifestyle data is very difficult (impossible?) to interpret
- The specialist medical underwriting insurers have those datasets. Other insurers, and even reinsurers, do not necessarily have those datasets
- Some pension consultancies have built postcode models. Will they be able to build fully fledged medical rating models?

> Partnership’s NSA products are priced using its proprietary medical and mortality data which has been collected over 18 years, as well as the experience, underwriting processes, methods and systems to interpret and apply such data (the “Proprietary IP”). The Directors believe that this data and Partnership’s ability to use it to price its products competitively and profitably represent the critical components of Partnership’s competitive advantage

> Partnership’s Proprietary IP is extensive. Partnership has collected an exclusive dataset by asking more questions for longer than others: Partnership has collected more than 120 million rating factors. This mortality data has a high degree of statistical relevance because Partnership accumulates mortality experience more quickly than a standard annuity provider of equivalent size given the greater number of deaths recorded over a shorter period as a result of its focus on shorter life expectancies. This enables Partnership to monitor experience against assumptions more frequently. Furthermore, because of Partnership’s substantial and increasing share in the NSA

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So, are solvency valuations 10% too high?

- There is no simple "yes"/"no" answer
- On average, the arrival of medically underwritten bulk annuities should mean solvency valuations are too high for schemes where they continue to be based on traditional bulk annuity benchmarks[(1)]
- But for "healthy" schemes solvency valuations could be too low (or at least they will be should traditional insurers increase their pricing to reflect selection*)
- For "poor health" schemes solvency valuations could be far too high, "*about 10% – much more in certain cases*"[(2)]
- And note the caveat, mortality is not the only factor impacting bulk annuity pricing

* if trustees/company believe their members are healthier than what might be expected under a postcode type rating approach, now might be a good time to purchase a traditionally priced bulk annuity!

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(1) Other than for large schemes
(2) "A healthier way to de-risk", CASS and Pensions Institute, February 2013

To conclude

1. **I've explained why supplying extra data to an insurer is likely to result in lower pricing <u>on average</u>**
   "… savings of 5-10% are typical …" (1)

2. **I described how medically underwritten bulk annuities are used in practice**
   In 2014 over 10% of bulk annuities in the sub £100m size sector were medically underwritten, up from 3% in 2013. Growth continues

3. **Finally, I offered a few thoughts on the challenges pension actuaries face given the arrival of medically underwritten bulk annuities**
   The challenges are real. The solutions are not yet clear

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(1) Full quote is "Pricing continued to be materially more attractive than in the traditional market – savings of 5-10% are typical", AON Hewitt, May 2015

Finally, a summary of best practices we've seen on bulk annuity exercises

Early feasibility

- Do the finances work?
- Trustees and sponsor engaged and willing
- Clear objectives

Cleansed data

- No (major) gaps
- Benefit issues resolved
- GMPs reconciled

Focused Advice

- Settled client selection criteria
- Considered list of insurers

All parties working together

- Trustees
- Employer
- Adviser
- Insurer

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Questions

Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

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